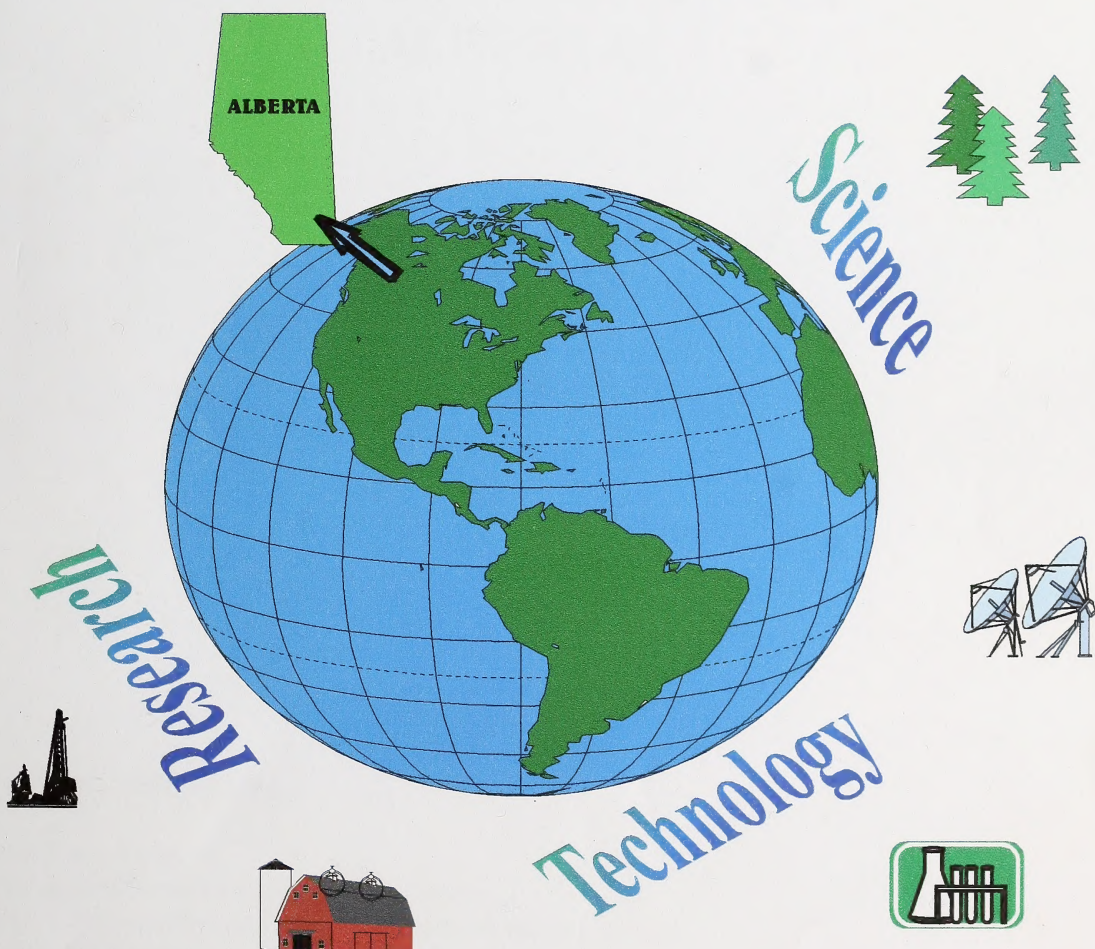


SCIENCE AND TECHNOLOGY

SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF ALBERTA

1999-2000 AND 2000-2001e
SURVEY RESULTS





FOREWORD

2000-2001 SURVEY RESULTS

SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF ALBERTA

**1999-2000 Actual
2000-2001 Estimates**

A REPORT PREPARED BY

**Janet Thompson
Science and Innovation Surveys Section
Science, Innovation and Electronic Information Division
Statistics Canada**

2000-2001 SURVEY RESULTS

SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF ALBERTA

1999-2000 Actual
2000-2001 Estimates

A REPORT PREPARED BY

Jane Thompson
Science and Innovation Strategy Section
Science, Innovation and Electronic Information Division
Statistics Canada

FOREWORD

This report presents a summary of the results of an annual survey on scientific activities of the Government of Alberta. This survey was conducted by Janet Thompson of Statistics Canada under the sponsorship and with the cooperation and assistance of the Department of Innovation and Science.

The statistical data presented here provide a broad perspective of the Alberta Government's involvement in S&T. The report contains indicators of science expenditures and personnel for various aspects such as: by Department or agency, type of activity, sector of performance, source of funds and science type. This report is made possible through the goodwill and efforts of officials of responding Departments and agencies.

Please note that the scientific expenditures of the Alberta Research Council shown in this report, reflect only the funding from the Alberta government. Additional information on the Alberta Research Council is available in the Statistics Canada service bulletin **Science Statistics**, Catalogue No. 88-001, Vol. 24, No. 4.

Currently all provinces except Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick and the Territories are surveyed. In Québec, a survey of only R&D statistics is conducted by the Institut de la statistique du Québec and shared with Statistics Canada. Detailed results of provincial surveys remain the property and responsibility of participating provinces. Reports for the provinces surveyed are available on request from the provincial Department or Ministry sponsoring the survey. A list of contacts is provided at the end of this report.

Statistics Canada also makes available a summary service bulletin including a historical account of all scientific data available at the provincial government level in **Science Statistics**, Catalogue 88-001, Vol. 23, No. 2.

Surveys of the scientific activities of provincial governments serve several purposes. They provide an essential data base for analysis and the formulation of provincial science policy. They also provide data for the development of a national aggregate R&D series. National aggregates for the current year are published by Statistics Canada in **Science Statistics** Catalogue No. 88-001 Vol. 24, No. 6. The national aggregates are also needed to complete the international questionnaires for the Organization for Economic Co-operation and Development (OECD) and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Science surveys, like many other surveys, are based on respondents' interpretations of definitions and methods of calculation. Accounting records available rarely use a science-based classification. Recognizing the fact that the data are estimates, they are still a good representation of the current science expenditures and employment data for the province of Alberta.

We would like to express special appreciation to Mr. Blake Bartlett and Ms. Natasja Treiberg of Innovation and Science for their support and efforts in conducting this survey.

TABLE OF CONTENTS

	Page
Definitions	7
Highlights.....	9

Statistical Charts:

Chart 1. Total Science Expenditures, by Performer and by Science, 2000-2001	10
Chart 2. Departmental Personnel Engaged in Scientific Activities, 2000-2001	12
Chart 3. Objectives of Natural and Social Science Activities, 2000-2001	14
Chart 4. Total Science Expenditures by Activity, 1992-93 to 2000-2001 Estimates.....	17

Statistical Tables

Total Sciences Natural Sciences Social Sciences and Humanities

Historical Series :

	Table	Page	Table	Page	Table	Page
Total Expenditures :						
by Activity	1	17	23	35	45	53
by Department or Agency	2	18	24	36	46	54
by Performing Sector	3	18	25	36	47	54
Research and Development (R&D) Expenditures:						
by Performing Sector.....	4	19	26	37	48	55
by Department or Agency	5	19	27	37	49	55
Personnel Engaged in Scientific Activities, by Activity and Category	6	20	28	38	50	56

1999-2000 Scientific Activities:

Total Expenditures :						
by Department or Agency and Source of Funds ...	7	21	29	39	51	57
by Activity and Performing Sector	8	21	30	39	52	57
by Department or Agency and Performing Sector..	9	22	31	40	53	58
by Department or Agency and Activity	10	22	32	40	54	58
Research and Development (R&D) Expenditures by Department or Agency and Performing Sector	11	23	33	41	55	59
Intramural Expenditures by Department or Agency and Type of Expenditure	12	23	34	41	56	59
Personnel Engaged in Scientific Activities by Department or Agency and Activity.....	13	24	35	42	57	60
Objectives of Expenditures :						
by Department or Agency	14	25	36	43	58	61
by Activity	15	26	37	44	59	62

**Total Sciences Natural Sciences Social Sciences
and Humanities**

Estimates for 2000-2001:

	Table	Page	Table	Page	Table	Page
Total Expenditures :						
by Activity and Performing Sector.....	16	27	38	45	60	63
by Department or Agency and Performing Sector	17	27	39	45	61	63
by Department or Agency and Activity	18	28	40	46	62	64
Research and Development (R&D) Expenditures by Department or Agency and Performing Sector...	19	28	41	46	63	64
Personnel Engaged in Scientific Activities by Department or Agency and Activity	20	29	42	47	64	65
Objectives of Expenditures :						
by Department or Agency	21	30	43	48	65	66
by Activity	22	31	44	49	66	67

Appendix

The Respondents	71
Indicators of Provincial Scientific Activities.....	74
Provincial Co-ordinators.....	78
Publications of Statistics Canada on Science and Technology.....	79

The following symbols are used in this report:

- nil or zero
- ... figures are not appropriate or not applicable
- e estimated figures
- r revised figures
- amount too small to be expressed
- .. figures not available

DEFINITIONS

This report covers those scientific and technological activities which involve the generation, dissemination and application of new scientific and technological knowledge.

There are two different **science types** that are identified by this survey, the natural sciences and the social sciences and humanities.

Natural sciences consist of disciplines concerned with understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, environmental, life and physical sciences.

Social sciences and humanities include all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology and urban and regional studies.

The central activity is **research and experimental development (R&D)**. In addition, there are a number of activities closely related to R&D and are referred to as **related scientific activities (RSA)**.

R&D is creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge as well as knowledge of humans, their culture and society; and the use of this knowledge to devise new applications. The central characteristic of R&D is an appreciable element of novelty and uncertainty. It requires the acquisition of knowledge and not just information. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations.

Related scientific activities include education support, technical surveys, statistical surveys, information services, special services and studies, and museum services. Education support, and museum services are largely self-explanatory.

Technical surveys are activities directed towards the exploration and systematic description of the earth and its natural resources. The activities include gathering, processing, collating and analysing of data on natural phenomena except when part of a research project or a museum service. The preparation of maps and survey reports, their printing and cataloguing, are also included.

Statistical surveys are activities directed towards the collecting, processing and disseminating of statistics on humankind, their economic and social activities. Included are the development of technical methodology, statistical analysis and vital statistics.

Information services are activities directed to recording, classifying, translating, and disseminating scientific and technological information (**Technology Transfer**) as well as information resulting from R&D in the social sciences or required in support of such R&D. Included are the operations of scientific and technical libraries, specialized libraries and archives, the publication of scientific journals and bibliographies, and the organizing of scientific conferences. Grants for the publication of scholarly works are also included.

Special services and studies in the natural sciences are activities directed towards the

establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects. In the social sciences, special services and studies are systematic investigations carried out in order to provide information needed for planning or policy formulation, including feasibility studies, and demonstration projects.

Five performing sectors are identified besides the Alberta Research Council.

Intramural refers to units of the provincial government performing scientific activities with their own funds.

Business enterprises consists largely of Canadian private corporations but also includes crown corporations with a commercial function (e.g. power utilities) and industrial research institutes not controlled by another institution. Consultants providing scientific and engineering services are also included.

Higher education includes Canadian universities and affiliated institutes owned, administered or staffed by them (e.g., Atlantic Industrial Research Institute of Nova Scotia Technical College).

Hospitals and health organizations are Canadian hospitals and health organizations which are not part of university medical schools, as well as private non-profit organizations.

Other includes recipients not covered elsewhere such as the federal government, municipal governments, individuals and foreign performers.

Expenditures are either current or capital. **Current expenditures** include costs of personnel, transportation and communications, information, professional and special services, rentals, purchased repair and upkeep, utilities, materials and supplies. **Capital expenditures** are incurred for the construction and acquisition of land, buildings, machinery and equipment. **Total expenditures** comprise current plus capital expenditures.

Departmental Personnel data are requested by activity and category of employment as full-time equivalent (FTE). A person working entirely full-time on a scientific activity is counted as one full-time equivalent. Those working only part-time on scientific activities are considered as a fraction corresponding to their involvement. Both permanent and non-permanent employees are included.

Objectives of expenditures are requested by activity and performer (intramural and extramural). The objectives listed are intended to cover the major areas of current economic, political and technological interest. Data are to be reported under the objective which is primary to that expenditure. Generally, the objective selected should be consistent with the stated objectives of the reporting Department.

HIGHLIGHTS

During the 1999-2000 fiscal year Alberta Government expenditures on scientific activities were \$234.6 million. This is 1.8% of the total budgetary expenditures of the government for that year. The scientific expenditures estimated for 2000-2001 are \$244.1 million, once again 1.8% of the total budgetary expenditures.

TEXT TABLE I. Government of Alberta Scientific Indicators

Year	GDP implicit price index (1992=100) ⁽¹⁾	Government Expenditures on scientific activities		Estimated government expenditures ⁽²⁾	Scientific activities as a percent of estimated expenditures
		Current dollars	1992 dollars		
in millions of dollars					percent
1992-93	100.0	229.3	229.3	11,951.5	1.9
1993-94	101.2	207.8	205.3	12,574.1	1.7
1994-95	102.4	172.0	168.0	10,945.4	1.6
1995-96	104.9	168.4	160.5	10,607.5	1.6
1996-97 ^f	106.7	168.8	158.2	10,373.7	1.6
1997-98 ^f	107.7	178.4	165.6	11,699.1	1.5
1998-99	107.1	214.4	200.2	12,432.9	1.7
1999-2000	108.8	234.6	215.6	13,223.6	1.8
2000-2001 ^g	113.1	244.1	215.8	13,926.4	1.8

⁽¹⁾ Canadian Economic Observer, Catalogue No. 11-010-XPB, Annual, January, 2001

⁽²⁾ 2000-2001 Government Lottery Fund Estimates - Alberta

In 1999-2000 the Government of Alberta's total scientific expenditures increased by 9%, a further increase of 4% has been estimated for 2000-2001.

TEXT TABLE II. Government of Alberta Scientific Expenditures by Department or Agency, 1999-2000 and 2000-2001 Estimates

Department or agency	1999-2000	2000-2001 ^e
in millions of dollars		
Agriculture, Food and Rural Development	33.1	33.3
Community Development	7.9	7.9
Environmental Protection	25.0	23.6
Health and Wellness	15.8	18.2
Infrastructure	9.7	9.7
Innovation and Science:		
Alberta Agricultural Research Institute	7.4	7.8
Alberta Energy Research Institute	7.6	8.4
Alberta Heritage Foundation for Medical Research	45.4	50.0
Alberta Science and Research Authority	81.9	84.4
Sub-total Innovation and Science	142.3	150.6
Justice	0.8	0.8
Total	234.6	244.1

TEXT TABLE III. Government of Alberta Scientific Expenditures, by Activity and by Department or Agency, 1999-2000

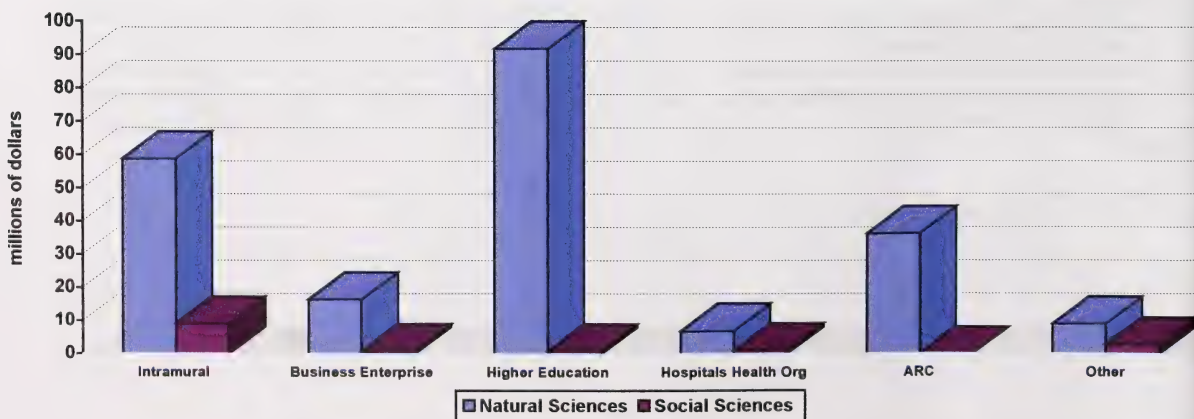
Department or agency	Natural Sciences			Social Sciences and Humanities		
	Research and development	Related scientific activities	Total	Research and development	Related scientific activities	Total
in millions of dollars						
Agriculture, Food and Rural Development	19.8	13.3	33.1	-	-	-
Community Development	-	2.4	2.4	-	5.5	5.5
Environmental Protection	3.3	21.7	25.0	-	-	-
Health and Wellness	10.0	0.8	10.8	0.3	4.7	5.0
Infrastructure	1.5	8.1	9.6	-	-	-
Innovation and Science:						
Alberta Agricultural Research Institute	6.6	0.8	7.4	-	-	-
Alberta Energy Research Institute	7.6	-	7.6	-	-	-
Alberta Heritage Foundation for Medical Research	45.4	-	45.4	-	-	-
Alberta Science and Research Authority	78.3	0.1	78.4	-	3.5	3.5
Sub-total Innovation and Science	137.9	0.9	138.8	-	3.5	3.5
Justice	-	-	-	0.3	0.5	0.8
Total	172.6	47.2	219.8	0.6	14.2	14.8

In 1999-2000, \$219.8 million (94%) of the government's scientific activities were spent in the natural sciences. The Department of Innovation and Science was the largest supporter of natural science activities. Agriculture, Food and Rural Development (\$33.1 million) and Environmental Protection (\$25.0 million) are also significant supporters of natural science activities in Alberta.

Seventy-eight percent (\$172.6 million) of natural science expenditures were spent on research and development. The Alberta Science and Research Authority (\$78.4 million) and the Alberta Heritage Foundation for Medical Research (\$45.4 million) are the major supporters of natural science R&D expenditures under Innovation and Science. The department is also responsible for administering the Vote money to the Alberta Research Council. These dollars are reported as natural science R&D by the Alberta Science and Research Authority.

Social sciences and humanities activities accounted for 6% (\$14.8 million) of the total 1999-2000 government science expenditures. Community Development, Health and Wellness and the Alberta Science and Research Authority are the major supporters of social science activities. Ninety-seven percent of social science expenditures were spent on related scientific activities.

Chart 1. Total Science Expenditures by Performer and by Science, 1999-2000



TEXT TABLE IV. Government of Alberta Scientific Expenditures, by Activity and Performer, 1999-2000

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council	Other	Total
in millions of dollars							
Current expenditures:							
Research and development	20.3	5.7	91.6	6.8	35.7	7.3	167.4
Related scientific activities	39.7	11.7	1.1	1.3	0.7	4.7	59.2
Sub-total	60.0	17.4	92.7	8.1	36.4	12.0	226.6
Administration of extramural programs:							
Research and development	5.8	...	...	...	...	...	5.8
Related scientific activities	2.0	...	...	...	...	...	2.0
Sub-total	7.8	...	...	...	...	...	7.8
Capital expenditures:							
Research and development	--	...	...	...	...	...	--
Related scientific activities	0.2	...	...	...	...	...	0.2
Sub-total	0.2	...	...	...	...	...	0.2
Total	68.0	17.4	92.7	8.1	36.4	12.0	234.6

The provincial government itself performed 29% of total scientific activities in 1999-2000. The largest recipient of provincial expenditures was the higher education sector receiving \$92.7 million in support of scientific activities. The Alberta Research Council received \$36.4 million and the business enterprise sector received \$17.4 million in support of scientific activities.

TEXT TABLE V. Government of Alberta Scientific Expenditures, by Performer and Department or Agency, 1999-2000

Department or Agency	Intramural	Business enterprises	Higher Education	Hospitals and health organizations	Alberta Research Council	Other	Total
in millions of dollars							
Agriculture, Food and Rural Development	32.9	-	0.1	-	-	0.1	33.1
Community Development	7.2	0.1	0.6	-	-	-	7.9
Environmental Protection	16.1	4.9	0.6	-	2.2	1.2	25.0
Health and Wellness	1.0	0.4	2.2	6.6	-	5.6	15.8
Infrastructure	1.9	7.4	0.1	-	-	0.3	9.7
Innovation and Science:							
Alberta Agricultural Research Institute	0.2	0.3	2.3	-	2.5	2.1	7.4
Alberta Energy Research Institute	0.7	3.8	1.3	-	1.7	0.1	7.6
Alberta Heritage Foundation for Medical Research	4.6	-	40.8	-	-	-	45.4
Alberta Science and Research Authority	3.1	0.5	44.6	1.5	29.9	2.3	81.9
Sub-total Innovation and Science	8.6	4.6	89.0	1.5	34.1	4.5	142.3
Justice	0.5	-	-	-	-	0.3	0.8
Total	68.0	17.4	92.7	8.1	36.4	12.0	234.6

In 1999-2000, the Alberta Science and Research Authority and the Alberta Heritage Foundation for Medical Research, were the largest funders of scientific activities transferring \$85.4 million to the Higher Education sector.

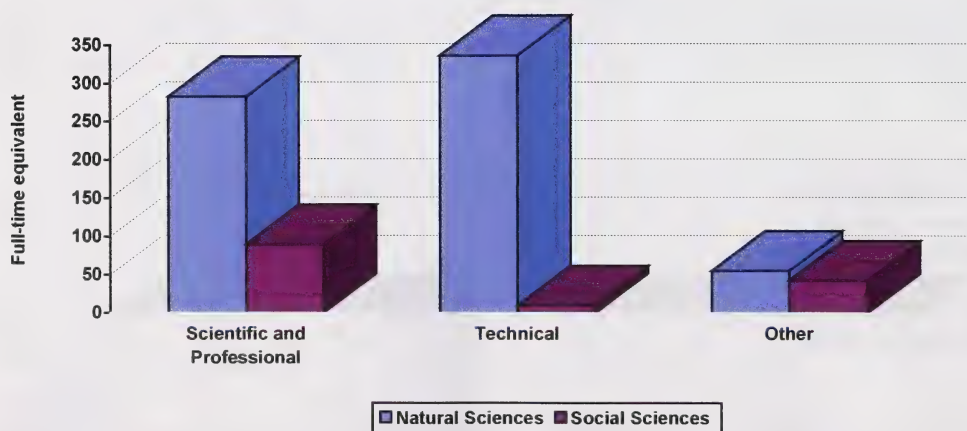
In this report, the scientific activity of the Alberta Research Council reflects only that portion funded by the government of Alberta. Innovation and Science is responsible for the granting of the Alberta Research Council vote money, \$27.1 million in 1999-2000.

TEXT TABLE VI. Government of Alberta Personnel Engaged in Scientific Activities, by Science Type, Activity and Category, 1999-2000

Science type and activity	Scientific and professional	Technical	Other	Total
full-time equivalent				
Natural sciences:				
Research and development	95	133	1	229
Related scientific activity	154	190	23	367
Administration of extramural programs	34	14	32	80
Total	283	337	56	676
Social sciences:				
Research and development	-	-	-	-
Related scientific activity	85	10	19	114
Administration of extramural programs	5	-	24	29
Total	90	10	43	143
All sciences:				
Research and development	95	133	1	229
Related scientific activity	239	200	42	481
Administration of extramural programs	39	14	56	109
Total	373	347	99	819

Of the total Alberta government employees, 819 full-time equivalent were devoted to scientific activities in 1999-2000. Eighty three percent of the full-time equivalent were in the natural sciences. When considering both sciences, the scientific and professional category accounted for 46%, technical personnel constituted 42% and other support staff the remaining 12%.

Chart 2. Departmental Personnel Engaged in Scientific Activities, 1999-2000

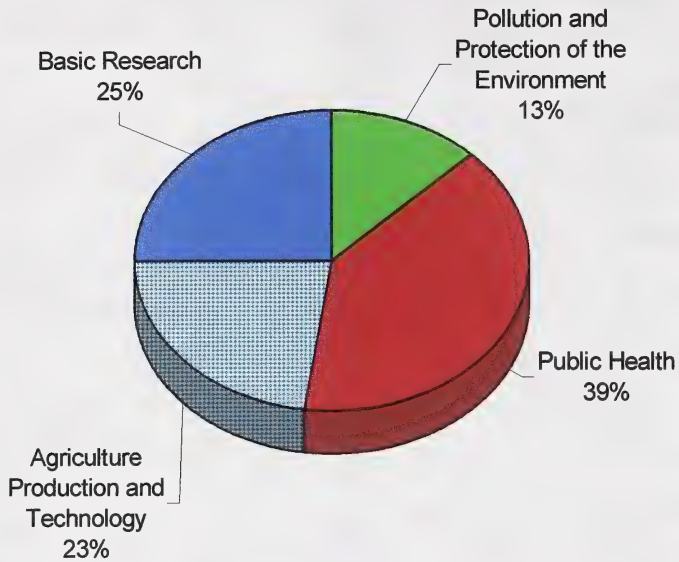


TEXT TABLE VII. Objectives of the Government of Alberta Scientific Expenditures, 1999-2000 to 2000-2001 Estimates

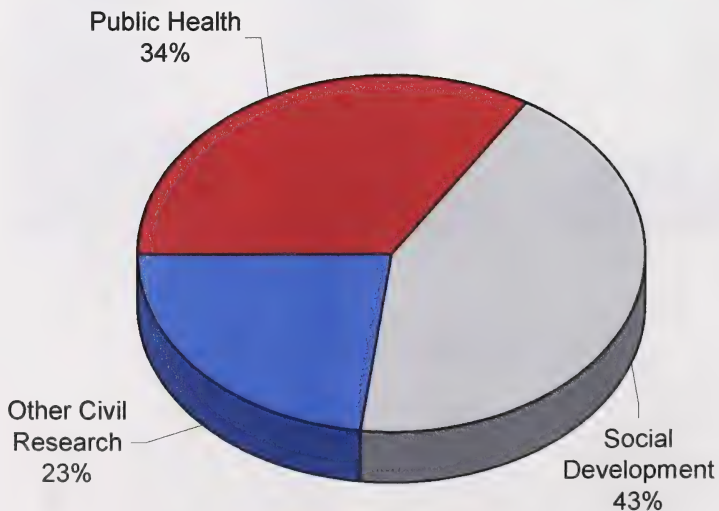
Objective	1999-2000		2000-2001 ^e	
	in millions of dollars	%	in millions of dollars	%
Exploration and Utilization of the Earth	1.8	0.8	1.0	0.4
Infrastructure and General Planning of Land Use				
Transport	7.0	2.9	7.1	2.9
Telecommunication	2.0	0.8	1.0	0.4
Other	2.7	1.2	2.6	1.1
Pollution and Protection of the Environment	25.0	10.7	23.9	9.8
Public Health	81.5	34.7	86.9	35.6
Production, Distribution and Rational				
Utilization of Energy	9.0	3.8	8.3	3.4
Agricultural Production and Technology	43.8	18.7	41.0	16.8
Fishing	-	-	-	-
Forestry	-	-	-	-
Industrial Production and Technology	0.6	0.3	0.6	0.2
Social Development	8.7	3.7	8.7	3.6
Exploration and Exploitation of Space	-	-	-	-
Basic Research	48.8	20.8	58.2	23.8
Other Civil Research	3.7	1.6	4.8	2.0
Total	234.6	100	244.1	100

The major objectives of scientific activities in 1999-2000 were Public Health (34.7%), Basic Research (20.8%), Agricultural Production and Technology (18.7%) and Pollution and Protection of the Environment (10.7%).

**Chart 3. Major Objectives of Natural Science Activities,
1999-2000**



**Chart 3. Major Objectives of Social Science Activities,
1999-2000**



Statistical Tables

Total Sciences

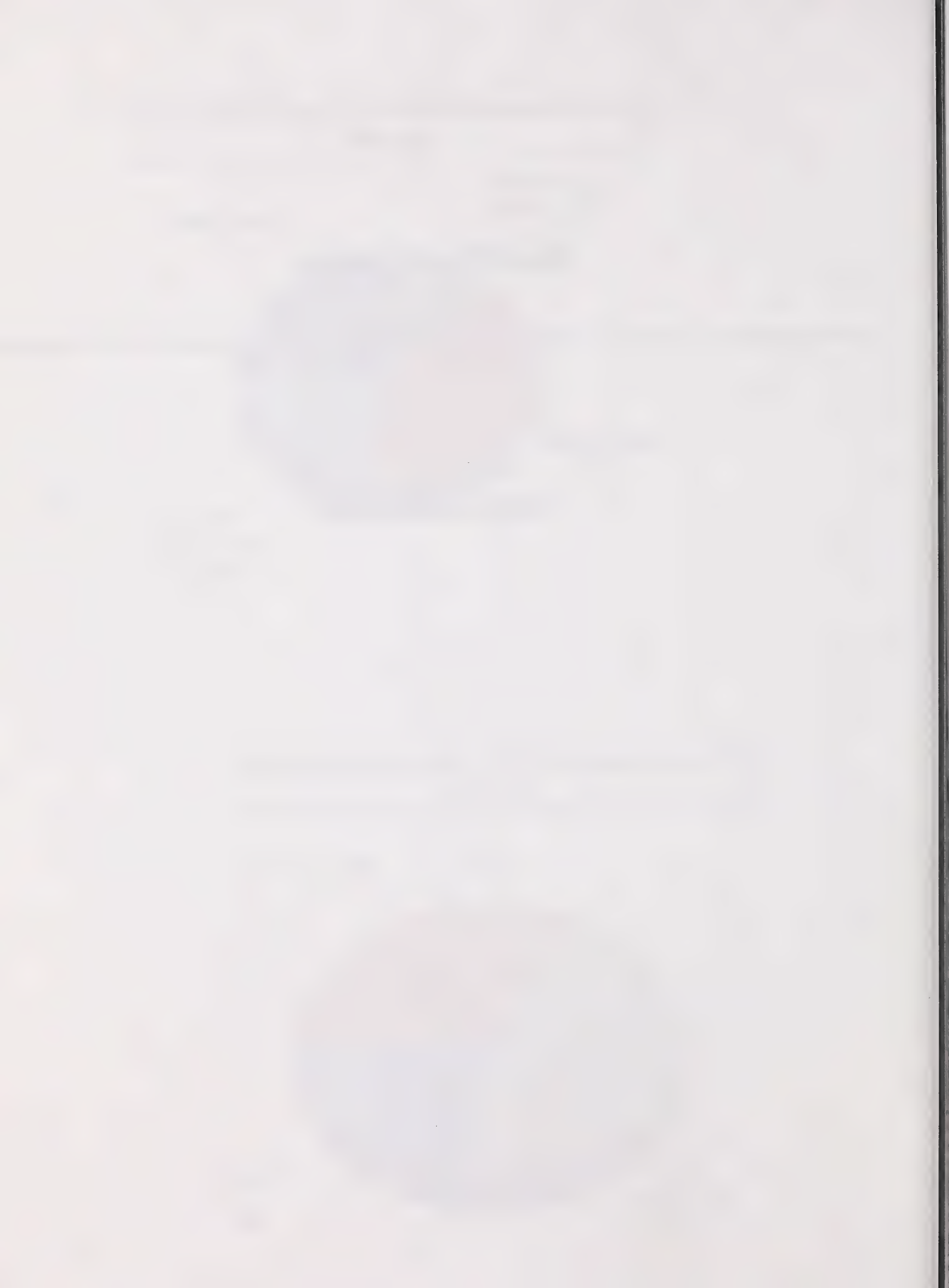


TABLE 1. Total Expenditures by Activity, 1992-93 to 2000-2001 Estimates

Activity	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Research and Development (R&D)									
Current expenditures:									
In-house R&D	21,117	19,486	19,846	18,631	11,520	12,004	13,584	20,126	20,521
R&D contracts	17,296	23,372	12,219	4,167	6,099	9,049	5,461	3,866	3,658
R&D grants and contributions	85,320	80,407	65,279	72,368	85,934	98,862	130,411	143,375	151,863
Research fellowships	122	165	49	6	-	-	-	-	-
Admin of extramural R&D programs	6,600	6,051	4,914	6,232	6,431	6,036	7,004	5,811	6,193
Sub-total current R&D	130,455	129,481	102,307	101,404	109,984	125,951	156,460	173,178	182,235
Capital expenditures	761	382	386	488	500	519	925	40	40
Total R&D	131,216	129,863	102,693	101,892	110,484	126,470	157,385	173,218	182,275
Related Scientific activities (RSA)									
Current expenditures:									
Admin of extramural RSA programs	93,431	74,919	66,703	65,323	57,609	50,036	55,658	59,223	59,509
Sub-total current RSA	2,578	1,536	1,625	1,019	453	1,263	1,119	2,001	2,221
Capital expenditures	96,009	76,455	68,328	66,342	58,062	51,299	56,777	61,224	61,730
Total RSA	2,051	1,510	979	190	300	619	255	150	140
Total RSA	98,060	77,965	69,307	66,532	58,362	51,918	57,032	61,374	61,870
Total	229,276	207,828	172,000	168,424	168,846	178,388	214,417	234,592	244,145

Chart 4. Total Science Expenditures by Activity, 1992-93 to 2000-2001^e

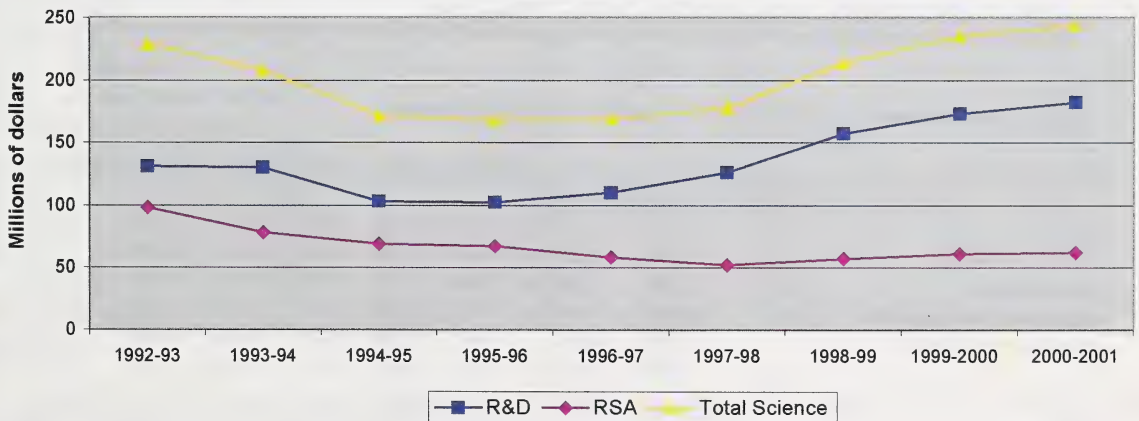


TABLE 2. Total Expenditures by Department or Agency, 1992-93 to 2000-2001 Estimates

Department or Agency	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Access Network	176	111	...	...	...	...	...	...	...
Advanced Education and Career Development	2,100	1,079	602	1,513	-	10,400	18,500	...	...
Agriculture, Food and Rural Development	20,300	22,857	27,333	33,056	34,405	36,845	40,817	33,134	33,270
Alcohol and Drug Abuse Commission	1,160	739	...	...	...	...	...	...	...
Community Development	20,814	18,052	18,658	7,900	7,900	7,900	7,900	7,900	7,900
Economic Development and Tourism	50,661	43,706	32,811	3,406	13,781	8,488	4,200	-	-
Education	2,607	4,712	449	355	232	153	161	...	...
Energy ¹	26,815	30,693	16,762	25,659	23,801	10,887	16,708	...	...
Environmental Protection	53,548	41,772	35,985	25,483	14,699	24,967	24,658	25,000	23,660
Environment Council	1,700	1,530	...	...	...	...	...	...	...
Family and Social Services	...	...	135	180	460	231	243	-	-
Health and Wellness	6,246	6,270	6,356	8,358	11,277	11,002	10,320	15,824	18,202
Infrastructure	...	...	...	...	...	...	5,996	9,648	9,740
Innovation and Science:									
Alberta Agricultural Research Institute ²	..	..	..	..	..	..	..	7,383	7,752
Alberta Energy Research Institute	...	...	...	...	...	...	...	7,649	8,436
Alberta Heritage Foundation for Medical Research	28,126	26,058	26,219	27,085	33,020	34,296	40,708	45,409	50,000
Alberta Science and Research Authority	...	...	276	20,681	25,323	28,364	43,446	81,885	84,425
Justice	2,244	530	488	797	654	779	760	760	760
Labour	1,016	508	...	...	...	...	...	...	...
Municipal Affairs	2,186	1,660	...	...	...	...	...	...	...
Transportation and Utilities	7,688	6,846	5,926	3,951	3,294	4,076	...	...	...
Treasury	1,889	705	...	...	...	...	...	...	...
Total	229,276	207,828	172,000	168,424	168,846	178,388	214,471	234,592	244,145

¹ AOSTRA expenditures from 1992 to 1998 reported through the Department of Energy.² Alberta Agricultural Research Institute expenditures from 1992 to 1998 reported through the Department of Agriculture, Food and Rural Development.**TABLE 3. Total Expenditures by Performing Sector, 1992-93 to 2000-2001 Estimates**

Performing sector	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Intramural	101,985	87,980	73,989	80,090	65,367	56,983	60,793	68,026	68,217
Business Enterprises	40,677	45,879	17,860	13,273	10,967	17,289	28,177	17,397	17,013
Higher Education	38,975	30,649	30,492	27,385	47,508	57,603	73,708	92,671	93,880
Hospitals and health organizations	2,514	3,456	3,377	3,108	8,637	4,936	3,626	8,130	7,755
Alberta Research Council ¹	35,524	30,632	30,682	22,445	28,253	29,918	32,857	36,367	43,953
Other	9,601	9,232	15,600	22,124	8,114	11,659	15,256	12,001	13,327
Total	229,276	207,828	172,000	168,424	168,846	178,388	214,417	234,592	244,145

¹ Includes only annual funding by the Government of Alberta - other funds are not included

TABLE 4. Total Expenditures on R&D, by Performing Sector, 1992-93 to 2000-2001 Estimates

Performing sector	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001
in thousands of dollars									
Intramural	28,582	26,131	25,146	25,351	18,451	18,559	21,513	26,127	26,881
Business Enterprises	23,690	35,934	7,011	5,382	5,565	10,705	19,777	5,702	4,721
Higher Education	37,587	28,965	29,043	27,056	46,153	55,654	69,172	91,619	92,441
Hospitals and health organizations	2,321	2,866	3,043	1,910	6,699	3,416	2,800	6,800	6,421
Alberta Research Council ¹	32,919	29,814	25,531	21,936	27,257	29,105	31,979	35,667	43,881
Other	6,117	6,153	12,919	20,257	6,359	9,031	12,144	7,303	7,911
Total	131,216	129,863	102,693	101,892	110,484	126,470	157,385	173,218	182,271

¹ Includes only annual funding by the Government of Alberta - other funds are not included

TABLE 5. Total Expenditures on R&D, by Department or Agency, 1992-93 to 2000-2001 Estimates

Department or Agency	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001
in thousands of dollars									
Access Network	-	-	...	...	...	...	...	...	...
Advanced Education and Career Development	100	122	14	-	-	10,400	18,500	...	...
Agriculture, Food and Rural Development	13,507	15,602	18,217	21,826	23,978	25,626	28,041	19,855	20,281
Alcohol and Drug Abuse Commission	323	225	...	...	...	...	...	...	...
Community Development	-	-	-	-	-	-	-	-	-
Economic Development and Tourism	45,629	40,301	31,349	12,115	12,745	7,801	3,600	-	-
Education	5	2,025	5	5	-	-	-	...	...
Energy ¹	22,099	28,282	10,900	6,664	6,138	10,330	16,387	...	...
Environmental Protection	13,742	10,541	11,138	7,555	1,842	4,247	4,511	3,290	3,540
Environment Council	-	-	...	...	...	...	...	...	...
Family and Social Services	...	...	-	-	40	-	-	-	-
Health and Wellness	4,545	4,303	3,707	4,922	8,008	5,850	5,850	10,250	11,321
Infrastructure	...	...	...	...	...	...	1,281	1,541	981
Innovation and Science:									
Alberta Agricultural Research Institute ²	..	..	..	..	..	..	..	6,628	7,052
Alberta Energy Research Institute	...	...	...	...	...	...	...	7,649	8,431
Alberta Heritage Foundation for Medical Research	27,930	26,058	26,219	27,085	32,921	34,296	40,708	45,409	50,001
Alberta Science and Research Authority	...	...	-	20,322	23,859	26,848	38,187	78,276	80,321
Justice	404	404	362	341	320	350	320	320	320
Labour	440	165	...	...	...	...	...	...	...
Municipal Affairs	956	489	...	...	...	...	...	...	...
Transportation and Utilities	1,536	1,346	782	1,057	633	722	...	...	...
Treasury	-	-	...	...	...	...	...	...	...
Total	131,216	129,863	102,693	101,892	110,848	126,470	157,385	173,218	182,271

¹ AOSTRA expenditures from 1992 to 1998 reported through the Department of Energy.

² Alberta Agricultural Research Institute expenditures from 1992 to 1998 reported through the Department of Agriculture, Food and Rural Development.

TABLE 6. Personnel Engaged in Scientific Activities, by Activity and Category, 1992-93 to 2000-2001 Estimates

Activity and category	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001*
full-time equivalent									
Research and development:									
Intramural R&D activities:									
Scientific and professional	197	183	175	137	120	125	131	95	95
Technical	275	272	109	133	92	94	98	133	135
Other	66	31	45	17	-	2	1	1	2
Sub-total intramural R&D activities personnel	538	486	329	287	212	221	230	229	232
Administration of extramural R&D programs:									
Scientific and professional	...	33	49	32	21	27	36	25	26
Technical	...	8	1	1	1	8	4	4	3
Other	...	30	22	17	13	28	29	30	25
Sub-total AEP for R&D personnel	...	71	72	50	35	63	69	59	54
Sub-total R&D Personnel	538	557	401	337	247	284	299	288	286
Related scientific activities:									
Intramural RSA:									
Scientific and professional	404	388	300	233	179	232	249	239	244
Technical	612	503	325	342	186	174	170	200	198
Other	151	131	117	115	58	60	69	42	40
Sub-total RSA personnel	1,167	1,022	742	690	423	466	488	481	482
Administration of extramural RSA programs:									
Scientific and professional	...	11	16	10	9	6	8	14	10
Technical	...	3	7	9	14	8	15	10	10
Other	...	10	9	2	20	4	2	26	26
Sub-total AEP for RSA personnel:	...	24	31	21	43	18	25	50	46
Sub-total RSA Personnel	1,167	1,046	773	711	466	484	513	531	528
Administration of extramural programs: ¹									
Scientific and professional	56	...	...	...	...	...	...	...	...
Technical	32	...	...	...	...	...	...	...	...
Other	56	...	...	...	...	...	...	...	...
Sub-total AEP personnel	144	...	...	...	...	...	...	...	...
Total science activities									
Scientific and professional	657	615	539	412	329	390	424	373	392
Technical	919	786	442	485	293	284	287	347	235
Other	273	202	193	151	91	94	101	99	66
Total scientific personnel	1,849	1,603	1,174	1,048	713	768	812	819	693

¹ In 1992-93 the full-time equivalents devoted to the administration of extramural programs were not separated by activity and therefore are shown under the heading 'Administration of extramural programs'

TABLE 7. Total Expenditures by Department or Agency and Source of Funds, 1999-2000

Department or agency	Departmental budget	Transfers from other Departments	Transfers from federal government	From trust funds	From business enterprises	From other sources	Total
in thousands of dollars							
Agriculture, Food and Rural Development	33,134	-	-	-	-	-	33,134
Community Development	7,900	-	-	-	-	-	7,900
Environmental Protection	21,470	2,430	140	80	310	570	25,000
Health and Wellness	15,824	-	-	-	-	-	15,824
Infrastructure	9,504	35	35	-	64	10	9,648
Innovation and Science:							
Alberta Agricultural Research Institute	7,383	-	-	-	-	-	7,383
Alberta Energy Research Institute	719	-	-	6,930	-	-	7,649
Alberta Heritage Foundation for Medical Research	-	4,040	-	-	-	41,369	45,409
Alberta Science and Research Authority	49,635	-	-	-	-	32,250	81,885
Sub-total Innovation and Science	57,737	4,040	-	6,930	-	73,619	142,326
Justice	760	-	-	-	-	-	760
Total	146,329	6,505	175	7,010	374	74,199	234,592

TABLE 8. Total Expenditures by Activity and Performing Sector, 1999-2000

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council *	Other	Total
in thousands of dollars							
Research and development (R&D)							
Current expenditures:							
In-house R&D	20,126	...	...	...	...	...	20,126
R&D contracts	150	1,622	308	-	1,510	276	3,866
R&D grants and contributions	-	4,080	91,311	6,800	34,157	7,027	143,375
Research fellowships	-	-	-	-	-	-	-
Admin of extramural R&D programs	5,811	...	...	...	...	...	5,811
Sub-total current R&D	26,087	5,702	91,619	6,800	35,667	7,303	173,178
Capital expenditures	40	...	...	...	...	...	40
Total R&D	26,127	5,702	91,619	6,800	35,667	7,303	173,218
Related scientific activities (RSA)							
Current expenditures	2,520	-	-	-	-	-	2,520
Admin of extramural RSA programs	2,001	...	...	...	...	...	2,001
Sub-total current RSA	41,749	11,695	1,052	1,330	700	4,698	61,224
Capital expenditures	150	...	...	...	...	...	150
Total RSA	41,899	11,695	1,052	1,330	700	4,698	61,374
Total	68,026	17,397	92,671	8,130	36,367	12,001	234,592

* Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 9. Total Expenditures by Department or Agency and Performing Sector, 1999-2000

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	32,858	-	140	-	-	136	33,134
Community Development	7,200	100	600	-	-	-	7,900
Environmental Protection	16,040	4,930	620	-	2,230	1,180	25,000
Health and Wellness	1,007	345	2,222	6,630	-	5,620	15,824
Infrastructure	1,864	7,402	118	-	-	264	9,648
Innovation and Science:							
Alberta Agricultural Research Institute	240	270	2,282	-	2,488	2,103	7,383
Alberta Energy Research Institute	719	3,825	1,282	-	1,773	50	7,649
Alberta Heritage Foundation for Medical Research	4,574	-	40,835	-	-	-	45,409
Alberta Science and Research Authority	3,084	525	44,572	1,500	29,876	2,328	81,885
Sub-total Innovation and Science	8,617	4,620	88,971	1,500	34,137	4,481	142,326
Justice	440	-	-	-	-	320	760
Total	68,026	17,397	92,671	8,130	36,367	12,001	234,592

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 10. Total Expenditures by Department or Agency and Activity, 1999-2000

Department or agency	Research and development			Related Scientific Activities			Total
	=====			=====			
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
in thousands of dollars							
Agriculture, Food and Rural Development	19,847	8	-	13,279	-	-	33,134
Community Development	-	-	-	7,900	-	-	7,900
Environmental Protection	3,140	110	40	21,290	270	150	25,000
Health and Wellness	10,200	50	-	5,187	387	-	15,824
Infrastructure	1,431	110	-	7,722	385	-	9,648
Innovation and Science:							
Alberta Agricultural Research Institute	6,388	240	-	755	-	-	7,383
Alberta Energy Research Institute	6,930	719	-	-	-	-	7,649
Alberta Heritage Foundation for Medical Research	40,835	4,574	-	-	-	-	45,409
Alberta Science and Research Authority	78,276	-	-	2,650	959	-	81,885
Sub-total Innovation and Science	132,429	5,533	-	3,405	959	-	142,326
Justice	320	-	-	440	-	-	760
Total	167,367	5,811	40	59,223	2,001	150	234,592

¹ Administration of extramural programs

TABLE 11. Total Expenditures on R&D by Department or Agency and Performing Sector, 1999-2000

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	19,579	-	140	-	-	136	19,855
Community Development	-	-	-	-	-	-	-
Environmental Protection	690	590	290	-	1,530	190	3,290
Health and Wellness	50	-	2,200	5,300	-	2,700	10,250
Infrastructure	275	1,082	18	-	-	166	1,541
Innovation and Science:							
Alberta Agricultural Research Institute	240	205	2,282	-	2,488	1,413	6,628
Alberta Energy Research Institute	719	3,825	1,282	-	1,773	50	7,649
Alberta Heritage Foundation for Medical Research	4,574	-	40,835	-	-	-	45,409
Alberta Science and Research Authority	-	-	44,572	1,500	29,876	2,328	78,276
Sub-total Innovation and Science	5,533	4,030	88,971	1,500	34,137	3,791	137,962
Justice	-	-	-	-	-	320	320
Total	26,127	5,702	91,619	6,800	35,667	7,303	173,218

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 12. Intramural Expenditures by Department or Agency and Type of Expenditure, 1999-2000

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
in thousands of dollars				
Agriculture, Food and Rural Development	32,858	-	-	32,858
Community Development	6,600	600	-	7,200
Environmental Protection	12,290	3,560	190	16,040
Health and Wellness	1,007	-	-	1,007
Infrastructure	1,864	-	-	1,864
Innovation and Science:				
Alberta Agricultural Research Institute	240	-	-	240
Alberta Energy Research Institute	586	133	-	719
Alberta Heritage Foundation for Medical Research	1,555	3,019	-	4,574
Alberta Science and Research Authority	2,884	200	-	3,084
Sub-total Innovation and Science	5,265	3,352	-	8,617
Justice	417	23	-	440
Total	60,301	7,535	190	68,026

TABLE 13. Personnel Engaged in Scientific Activities, by Department or Agency and Activity, 1999-2000

Department or agency	Research and development =====								
	Intramural R&D			Administration of Extramural R&D			Total R&D		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	87	131	-	-	-	-	87	131	-
Community Development	-	-	-	-	-	-	-	-	-
Environmental Protection	5	1	1	2	-	1	7	1	2
Health and Wellness	-	-	-	-	-	-	-	-	-
Infrastructure	3	1	-	1	1	1	4	2	1
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	3
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	4
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	21	13	3	21
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	22	3	28	22	3	28
Justice	-	-	-	-	-	-	-	-	-
Total	95	133	1	25	4	30	120	137	31

Department or agency	Related Scientific Activities =====								
	Intramural RSA			Administration of Extramural RSA			Total RSA		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	44	66	-	-	-	-	44	66	-
Community Development	70	16	15	-	-	-	70	16	15
Environmental Protection	86	110	15	5	1	-	91	111	15
Health and Wellness	9	-	1	6	-	3	15	-	4
Infrastructure	3	8	4	3	9	-	6	17	4
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	19	-	6	-	-	23	19	-	29
Sub-total Innovation and Science	19	-	6	-	-	23	19	-	29
Justice	8	-	1	-	-	-	8	-	1
Total	239	200	42	14	10	26	253	210	68

Department or agency	Total Scientific Personnel =====								
	Intramural			Administration of Extramural			Total		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	131	197	-	-	-	-	131	197	-
Community Development	70	16	15	-	-	-	70	16	15
Environmental Protection	91	111	16	7	1	1	98	112	17
Health and Wellness	9	-	1	6	-	3	15	-	4
Infrastructure	6	9	4	4	10	1	10	19	5
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	3
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	4
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	21	13	3	21
Alberta Science and Research Authority	19	-	6	-	-	23	19	-	29
Sub-total Innovation and Science	19	-	6	22	3	51	41	3	57
Justice	8	-	1	-	-	-	8	-	1
Total	334	333	43	39	14	56	373	347	99

TABLE 14. Objectives of Expenditures by Department or Agency, 1999-2000

Department or agency	Exploration and Utilization of the Earth	Infrastructure and General Planning of Land Use			Pollution and Protection of the Environment	Public Health
		Transport	Telecommunication	Other		
in thousands of dollars						
Agriculture, Food and Rural Development	-	-	-	-	-	-
Community Development	-	-	-	-	-	-
Environmental Protection	-	-	-	-	25,000	-
Health and Wellness	-	-	-	-	-	15,764
Infrastructure	-	7,026	-	2,622	-	-
Innovation and Science:						
Alberta Agricultural Research Institute	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	86	20	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	45,409
Alberta Science and Research Authority	1,803	-	1,943	-	-	20,327
Sub-total Innovation and Science	1,803	7,026	1,943	2,708	25,020	81,500
Justice	-	-	-	-	-	-
Total	1,803	14,052	1,943	5,330	50,020	97,264

Department or agency	Production, Distribution and Rational Utilization of Energy	Agricultural Production and Technology	Fishing	Forestry	Industrial Production and Technology
in thousands of dollars					
Agriculture, Food and Rural Development	-	33,134	-	-	-
Community Development	-	-	-	-	-
Environmental Protection	25,000	50,000	-	-	-
Health and Wellness	-	-	-	-	-
Infrastructure	2,622	5,244	-	-	-
Innovation and Science:					
Alberta Agricultural Research Institute	-	-	-	-	-
Alberta Energy Research Institute	7,543	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-
Alberta Science and Research Authority	1,446	3,260	-	-	600
Sub-total Innovation and Science	8,989	3,260	-	-	600
Justice	-	-	-	-	-
Total	36,611	91,638	-	-	600

Department or agency	Social development	Exploration and Exploitation of Space	Basic Research	Other Civil Research	Total
in thousands of dollars					
Agriculture, Food and Rural Development	-	-	-	-	33,134
Community Development	7,900	-	-	-	7,900
Environmental Protection	-	-	-	-	25,000
Health and Wellness	60	60	-	120	15,824
Infrastructure	-	-	-	-	9,648
Innovation and Science:					
Alberta Agricultural Research Institute	-	-	-	-	7,383
Alberta Energy Research Institute	-	-	-	-	7,649
Alberta Heritage Foundation for Medical Research	-	-	-	-	45,409
Alberta Science and Research Authority	-	-	48,822	3,684	81,885
Sub-total Innovation and Science	-	-	48,822	3,684	142,326
Justice	760	-	-	-	760
Total	8,720	60	48,822	3,804	234,592

TABLE 15. Objectives of Expenditures by Activity, 1999-2000

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
in thousands of dollars					
Exploration and Utilization of the Earth	-	-	1,803	-	1,803
Infrastructure and General Planning of Land Use					
Transport	270	1,389	1,249	4,118	7,026
Telecommunication	-	-	1,943	-	1,943
Other	5	200	103	2,400	2,708
Pollution and Protection of the Environment	690	15,350	2,620	6,360	25,020
Public Health	4,624	897	71,362	4,617	81,500
Production, Distribution and Rational Utilization of Energy	719	-	8,270	-	8,989
Agricultural Production and Technology	19,819	13,279	9,924	755	43,777
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial Production and Technology	-	-	600	-	600
Social Development	-	7,700	320	700	8,720
Exploration and Exploitation of Space	-	-	-	-	-
Basic Research	-	-	48,697	125	48,822
Other Civil Research	-	3,084	200	400	3,684
Total	26,127	41,899	147,091	19,475	234,592

TABLE 16. Total Expenditures by Activity and Performing Sector, 2000-2001 Estimates

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Research and development (R&D)							
Current expenditures:							
In-house R&D	20,521	...	...	...	...	...	20,521
R&D contracts	130	1,574	648	-	1,180	126	3,658
R&D grants and contributions	...	3,149	91,801	6,425	42,703	7,785	151,863
Research fellowships	-	-	-	-	-	-	-
Admin of extramural R&D programs	6,193	...	...	...	...	...	6,193
Sub-total current R&D	26,844	4,723	92,449	6,425	43,883	7,911	182,235
Capital expenditures	40	...	...	...	...	...	40
Total R&D	26,884	4,723	92,449	6,425	43,883	7,911	182,275
Related scientific activities (RSA)							
Current expenditures	38,972	12,290	1,431	1,330	70	5,416	59,509
Admin of extramural RSA programs	2,221	...	...	...	...	...	2,221
Sub-total current RSA	41,193	12,290	1,431	1,330	70	5,416	61,730
Capital expenditures	140	...	...	...	...	...	140
Total RSA	41,333	12,290	1,431	1,330	70	5,416	61,870
Total	68,217	17,013	93,880	7,755	43,953	13,327	244,145

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 17. Total Expenditures by Department or Agency and Performing Sector, 2000-2001 Estimates

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	33,030	-	20	-	-	220	33,270
Community Development	7,200	100	600	-	-	-	7,900
Environmental Protection	14,950	4,830	1,490	-	1,250	1,140	23,660
Health and Wellness	1,313	707	2,221	6,630	-	7,331	18,202
Infrastructure	2,144	7,327	18	-	-	251	9,740
Innovation and Science:							
Alberta Agricultural Research Institute	240	215	2,534	-	2,536	2,227	7,752
Alberta Energy Research Institute	700	2,134	2,027	-	3,312	263	8,436
Alberta Heritage Foundation for Medical Research	5,000	-	45,000	-	-	-	50,000
Alberta Science and Research Authority	3,200	1,700	39,970	1,125	36,855	1,575	84,425
Sub-total Innovation and Science	9,140	4,049	89,531	1,125	42,703	4,065	150,613
Justice	440	-	-	-	-	320	760
Total	68,217	17,013	93,880	7,755	43,953	13,327	244,145

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 18. Total Expenditures by Department or Agency and Activity, 2000-2001 Estimates

Department or agency	Research and development			Related scientific activities			Total
	=====			=====			
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
in thousands of dollars							
Agriculture, Food and Rural Development	20,281	8	-	12,981	-	-	33,270
Community Development	-	-	-	7,900	-	-	7,900
Environmental Protection	3,390	110	40	19,780	200	140	23,660
Health and Wellness	11,300	25	-	6,246	631	-	18,202
Infrastructure	878	110	-	8,362	390	-	9,740
Innovation and Science:							
Alberta Agricultural Research Institute	6,812	240	-	700	-	-	7,752
Alberta Energy Research Institute	7,736	700	-	-	-	-	8,436
Alberta Heritage Foundation for Medical Research	45,000	5,000	-	-	-	-	50,000
Alberta Science and Research Authority	80,325	-	-	3,100	1,000	-	84,425
Sub-total Innovation and Science	139,873	5,940	-	3,800	1,000	-	150,613
Justice	320	-	-	440	-	-	760
Total	176,042	6,193	40	59,509	2,221	140	244,145

¹ Administration of extramural programs

TABLE 19. Total Expenditures on R&D by Department or Agency and Performing Sector, 2000-2001 Estimates

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	20,049	-	20	-	-	220	20,289
Community Development	-	-	-	-	-	-	-
Environmental Protection	620	1,020	680	-	1,180	40	3,540
Health and Wellness	25	-	2,200	5,300	-	3,800	11,325
Infrastructure	250	554	18	-	-	166	988
Innovation and Science:							
Alberta Agricultural Research Institute	240	215	2,534	-	2,536	1,527	7,052
Alberta Energy Research Institute	700	2,134	2,027	-	3,312	263	8,436
Alberta Heritage Foundation for Medical Research	5,000	-	45,000	-	-	-	50,000
Alberta Science and Research Authority	-	800	39,970	1,125	36,855	1,575	80,325
Sub-total Innovation and Science	5,940	3,149	89,531	1,125	42,703	3,365	145,813
Justice	-	-	-	-	-	320	320
Total	26,884	4,723	92,449	6,425	43,883	7,911	182,275

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 20. Personnel Engaged in Scientific Activities, by Department or Agency and Activity, 2000-2001 Estimates

Department or agency	Research and development =====								
	Intramural R&D			Administration of Extramural R&D			Total R&D		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	88	133	-	-	-	-	88	133	-
Community Development	-	-	-	-	-	-	-	-	-
Environmental Protection	4	1	2	2	-	-	6	1	2
Health and Wellness	-	-	-	-	-	-	-	-	-
Infrastructure	3	1	-	2	-	1	5	1	1
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	3
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	4
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	17	13	3	17
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	22	3	24	22	3	24
Justice	-	-	-	-	-	-	-	-	-
Total	95	135	2	26	3	25	121	138	27

Department or agency	Related Scientific Activities =====								
	Intramural RSA			Administration of Extramural RSA			Total RSA		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	45	68	-	-	-	-	45	68	-
Community Development	70	16	15	-	-	-	70	16	15
Environmental Protection	90	102	13	-	-	-	90	102	13
Health and Wellness	9	-	1	8	-	3	17	-	4
Infrastructure	3	12	4	2	10	-	5	22	4
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	19	-	6	-	-	23	19	-	29
Sub-total Innovation and Science	19	-	6	-	-	23	19	-	29
Justice	8	-	1	-	-	-	8	-	1
Total	244	198	40	10	10	26	254	208	66

Department or agency	Total Scientific Personnel =====								
	Intramural			Administration of Extramural			Total		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	133	201	-	-	-	-	178	68	-
Community Development	70	16	15	-	-	-	70	16	15
Environmental Protection	94	103	15	-	-	-	91	104	13
Health and Wellness	9	-	1	8	-	3	17	-	4
Infrastructure	6	13	4	2	11	-	6	23	4
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	-	3	-	-	3	-
Alberta Energy Research Institute	-	-	-	-	4	-	-	4	-
Alberta Heritage Foundation for Medical Research	-	-	-	3	17	-	3	17	-
Alberta Science and Research Authority	19	-	6	-	-	23	19	-	29
Sub-total Innovation and Science	19	-	6	3	24	23	22	24	29
Justice	8	-	1	-	-	-	8	-	1
Total	339	333	42	13	35	26	392	235	66

TABLE 21. Objectives of Expenditures by Department or Agency, 2000-2001 Estimates

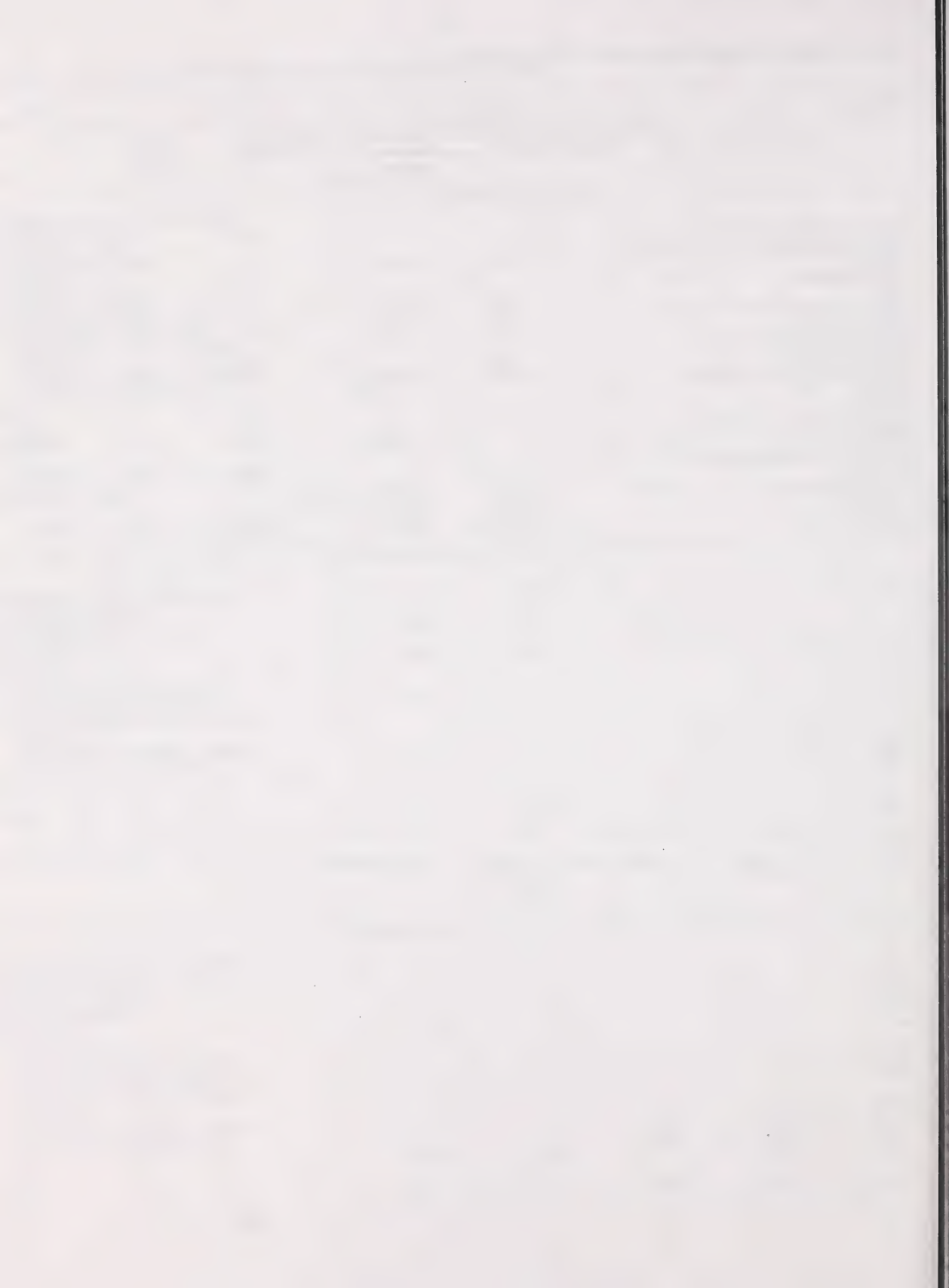
Department or agency	Exploration and Utilization of the Earth	Infrastructure and General Planning of Land Use =====			Pollution and Protection of the Environment	Public Health
		Transport	Telecommunication	Other		
in thousands of dollars						
Agriculture, Food and Rural Development	-	-	-	-	-	-
Community Development	-	-	-	-	-	-
Environmental Protection	-	-	-	-	23,660	-
Health and Wellness	-	-	-	-	-	18,142
Infrastructure	-	7,118	-	2,622	-	-
Innovation and Science:						
Alberta Agricultural Research Institute	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	263	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	50,000
Alberta Science and Research Authority	993	-	937	-	-	18,793
Sub-total Innovation and Science	993	-	937	-	263	68,793
Justice	-	-	-	-	-	-
Total	993	7,118	937	2,622	23,923	86,935

Department or agency	Production, Distribution and Rational Utilization of Energy	Agricultural Production and Technology	Fishing	Forestry	Industrial Production and Technology
in thousands of dollars					
Agriculture, Food and Rural Development	-	33,270	-	-	-
Community Development	-	-	-	-	-
Environmental Protection	23,660	47,320	-	-	-
Health and Wellness	-	-	-	-	-
Infrastructure	2,622	5,244	-	-	-
Innovation and Science:					
Alberta Agricultural Research Institute	-	-	-	-	-
Alberta Energy Research Institute	8,173	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-
Alberta Science and Research Authority	134	-	-	-	600
Sub-total Innovation and Science	8,307	-	-	-	600
Justice	-	-	-	-	-
Total	34,589	85,834	-	-	600

Department or agency	Social development	Exploration and Exploitation of Space	Basic Research	Other Civil Research	Total
in thousands of dollars					
Agriculture, Food and Rural Development	-	-	-	-	33,270
Community Development	7,900	-	-	-	7,900
Environmental Protection	-	-	-	-	23,660
Health and Wellness	60	60	-	120	18,202
Infrastructure	-	-	-	-	9,740
Innovation and Science:					
Alberta Agricultural Research Institute	-	-	-	-	7,752
Alberta Energy Research Institute	-	-	-	-	8,436
Alberta Heritage Foundation for Medical Research	-	-	-	-	50,000
Alberta Science and Research Authority	-	-	58,218	4,750	84,425
Sub-total Innovation and Science	-	-	58,218	4,750	150,613
Justice	760	760	-	1,520	760
Total	8,720	820	58,218	6,390	244,145

TABLE 22. Objectives of Expenditures by Activity, 2000-2001 Estimates

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
in thousands of dollars					
Exploration and Utilization of the Earth	-	-	993	-	993
Infrastructure and General Planning of Land Use					
Transport	245	1,694	721	4,458	7,118
Telecommunication	-	-	937	-	937
Other	5	200	17	2,400	2,622
Pollution and Protection of the Environment	620	14,330	3,183	5,790	23,923
Public Health	5,025	1,228	75,093	5,589	86,935
Production, Distribution and Rational Utilization of Energy	700	-	7,607	-	8,307
Agricultural Production and Technology	20,289	12,981	7,052	700	41,022
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial Production and Technology	-	-	600	-	600
Social Development	-	7,700	320	700	8,720
Exploration and Exploitation of Space	-	-	-	-	-
Basic Research	-	-	58,118	100	58,218
Other Civil Research	-	3,200	750	800	4,750
Total	26,884	41,333	155,391	20,537	244,145



Statistical Tables

Natural Sciences

TABLE 23. Total Expenditures in the Natural Sciences, by Activity, 1992-93 to 2000-2001 Estimates

Activity	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Research and development (R&D)									
Current expenditures:									
In-house R&D	20,728	19,018	19,738	18,581	11,508	11,974	13,584	20,126	20,521
R&D contracts	17,099	22,891	12,043	4,090	6,033	9,049	5,461	3,866	3,658
R&D grants and contributions	83,388	76,972	64,706	72,022	85,614	98,292	129,841	142,805	151,293
Research fellowships	122	147	49	6	-	-	-	-	-
Admin of extramural R&D programs	6,429	5,870	4,904	6,232	6,431	6,036	7,004	5,761	6,168
Sub-total current R&D	127,766	124,898	101,440	100,931	109,586	125,351	155,890	172,558	181,640
Capital expenditures	761	382	386	488	500	519	925	40	40
Total R&D	128,527	125,280	101,826	101,419	110,086	125,870	156,815	172,598	181,680
Related scientific activities (RSA)									
Current expenditures:									
Education support	630	547	452	153	108	326	3,875	90	80
Technical surveys	35,250	30,240	28,108	16,493	16,005	23,559	18,221	26,687	22,033
Information services	12,195	9,472	7,975	8,397	7,523	7,937	9,779	10,340	9,297
Special services and studies	9,305	7,872	7,117	26,785	20,557	3,190	9,824	6,598	11,539
Museum services	6,055	5,266	5,636	2,367	2,370	2,557	2,520	2,520	2,520
Admin of extramural RSA programs	1,321	1,160	1,403	310	263	984	863	787	756
Sub-total current RSA	64,756	54,557	50,691	54,505	46,826	38,553	45,082	47,022	46,225
Capital expenditures	1,614	1,352	826	190	300	494	255	150	140
Total RSA	66,370	55,909	51,517	54,695	47,126	39,047	45,337	47,172	46,365
Total	194,897	181,189	153,343	156,114	157,212	164,917	202,152	219,770	228,045

TABLE 24. Total Expenditures in the Natural Sciences, by Department or Agency, 1992-93 to 2000-2001 Estimates

Department or Agency	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Advanced Education and Career Development	-	-	-	-	-	10,400	18,500	...	...
Agriculture, Food and Rural Development	20,300	22,857	27,333	33,056	34,405	36,845	40,817	33,134	33,270
Community Development	6,244	5,346	5,717	2,367	2,370	2,370	2,370	2,370	2,370
Economic Development and Tourism	47,331	43,588	31,752	12,628	13,394	8,193	3,600	-	-
Energy ¹	26,815	30,693	16,762	25,659	23,801	10,887	16,708	...	...
Environmental Protection	53,460	41,714	35,941	25,453	14,699	24,967	24,658	25,000	23,660
Health and Wellness	3,132	3,138	3,693	5,593	8,370	6,035	6,791	10,776	12,392
Infrastructure	...	...	...	...	...	...	5,996	9,648	9,740
Innovation and Science:									
Alberta Agricultural Research Institute ²	..	..	..	..	..	..	..	7,383	7,752
Alberta Energy Research Institute	...	...	...	...	...	...	...	7,649	8,436
Alberta Heritage Foundation for Medical Research	28,126	26,058	26,219	27,085	33,020	34,296	40,708	45,409	50,000
Alberta Science and Research Authority	...	...	-	20,322	23,859	26,848	42,004	78,401	80,425
Labour	818	440	...	...	...	...	...	...	...
Municipal Affairs	983	509	...	...	...	...	...	...	...
Transportation and Utilities	7,688	6,846	5,926	3,951	3,294	4,076	...	...	...
Total	194,897	181,189	153,343	156,114	157,212	164,917	202,152	219,770	228,045

¹ AOSTRA expenditures from 1992 to 1998 reported through the Department of Energy.

² Alberta Agricultural Research Institute expenditures from 1992 to 1998 reported through the Department of Agriculture, Food and Rural Development.

TABLE 25. Total Expenditures in the Natural Sciences, by Performing Sector, 1992-93 to 2000-2001 Estimates

Performing sector	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Intramural	76,025	69,152	59,737	71,859	57,983	49,432	52,885	58,841	58,646
Business Enterprises	36,456	44,096	16,045	11,503	9,932	15,841	26,242	16,553	15,406
Higher Education	37,066	29,101	28,959	27,244	45,974	55,486	72,634	91,799	93,009
Hospitals and health organizations	1,941	2,798	3,043	1,910	7,059	3,816	3,090	7,075	6,700
Alberta Research Council ¹	35,514	28,624	30,677	22,440	28,253	29,918	32,857	36,367	43,953
Other	7,895	7,418	14,882	21,158	8,011	10,424	14,444	9,136	10,331
Total	194,897	181,189	153,343	156,114	157,212	164,917	202,152	219,770	228,045

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 26. Total Expenditures on R&D in the Natural Sciences, by Performing Sector, 1992-93 to 2000-2001 Estimates

Performing sector	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ⁶
in thousands of dollars									
Intramural	27,933	25,423	25,028	25,301	18,439	18,529	21,513	26,077	26,859
Business Enterprises	23,592	35,889	6,835	5,305	5,565	10,705	19,777	5,702	4,723
Higher Education	36,180	27,613	28,475	27,056	45,807	55,404	68,922	91,369	92,199
Hospitals and health organizations	1,941	2,770	3,043	1,910	6,659	3,416	2,800	6,800	6,425
Alberta Research Council ¹	32,914	27,809	25,526	21,931	27,257	29,105	31,979	35,667	43,883
Other	5,967	5,776	12,919	19,916	6,359	8,711	11,824	6,983	7,591
Total	128,527	125,280	101,826	101,419	110,086	125,870	156,815	172,598	181,680

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 27. Total Expenditures on R&D in the Natural Sciences, by Department or Agency, 1992-93 to 2000-2001 Estimates

Department or Agency	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ⁶
in thousands of dollars									
Advanced Education and Career Development	-	-	-	-	-	10,400	18,500	...	...
Agriculture, Food and Rural Development	13,507	15,602	18,217	21,826	23,978	25,626	28,041	19,855	20,289
Community Development	-	-	-	-	-	-	-	-	-
Economic Development and Tourism	45,481	40,215	31,085	11,988	12,745	7,801	3,600	-	-
Energy ¹	22,099	28,282	10,900	6,664	6,138	10,330	16,387	...	...
Environmental Protection	13,742	10,541	11,132	7,555	1,842	4,247	4,511	3,290	3,540
Health and Wellness	2,876	2,582	3,491	4,922	7,970	5,600	5,600	9,950	11,050
Infrastructure	...	...	...	...	...	...	1,281	1,541	988
Innovation and Science:									
Alberta Agricultural Research Institute ²	..	..	..	..	..	..	..	6,628	7,052
Alberta Energy Research Institute	...	...	...	...	...	...	...	7,649	8,436
Alberta Heritage Foundation for Medical Research	27,930	26,058	26,219	27,085	32,921	34,296	40,708	45,409	50,000
Alberta Science and Research Authority	...	...	-	20,322	23,859	26,848	38,187	78,276	80,325
Labour	400	165	...	...	...	...	...	...	...
Municipal Affairs	956	489	...	...	...	...	...	...	...
Transportation and Utilities	1,536	1,346	782	1,057	633	722	...	...	...
Total	128,527	125,280	101,826	101,419	110,086	125,870	156,815	172,598	181,680

¹ AOSTRA expenditures from 1992 to 1998 reported through the Department of Energy.

² Alberta Agricultural Research Institute expenditures from 1992 to 1998 reported through the Department of Agriculture, Food and Rural Development.

TABLE 28. Personnel Engaged in Natural Science Activities, by Activity and Category, 1992-93 to 2000-2001 Estimates

Activity and category	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ¹
full-time equivalent									
Research and development:									
Intramural R&D activities:									
Scientific and professional	190	173	173	136	119	124	131	95	95
Technical	275	272	109	133	92	94	98	133	135
Other	66	30	45	17	-	2	1	1	2
Sub-total intramural R&D activities personnel	531	475	327	286	211	220	230	229	232
Administration of extramural R&D programs:									
Scientific and professional	...	31	35	32	21	27	36	25	26
Technical	...	8	-	1	1	8	4	4	3
Other	...	28	21	17	13	28	29	30	25
Sub-total AEP for R&D personnel	...	67	56	50	35	63	69	59	54
Sub-total R&D Personnel	531	542	383	336	246	283	299	288	286
Related scientific activities:									
Intramural RSA:									
Scientific and professional	204	182	146	149	107	159	174	154	159
Technical	460	461	297	331	174	162	158	190	188
Other	94	96	105	100	45	47	53	23	21
Sub-total RSA personnel	758	739	548	580	326	368	385	367	368
Administration of extramural RSA programs:									
Scientific and professional	...	6	12	1	7	4	5	9	3
Technical	...	3	7	9	13	8	14	10	10
Other	...	9	7	-	19	1	2	2	2
Sub-total AEP for RSA personnel:	...	18	26	10	39	13	21	21	15
Sub-total RSA Personnel	758	757	574	590	365	381	406	388	383
Administration of extramural programs: ¹									
Scientific and professional	43	...	...	...	...	...	...	...	...
Technical	22	...	...	...	...	...	...	...	...
Other	52	...	...	...	...	...	...	...	...
Sub-total AEP personnel	117	...	...	...	...	...	...	...	...
Total science activities									
Scientific and professional	437	392	366	318	254	314	346	283	283
Technical	757	744	413	474	280	272	274	337	336
Other	212	163	178	134	77	78	85	56	50
Total scientific personnel	1,406	1,299	957	926	611	664	705	676	669

¹ In 1992-93 the full-time equivalents devoted to the administration of extramural programs were not separated by activity and therefore are shown under the heading 'Administration of extramural programs'.

TABLE 29. Total Expenditures in the Natural Sciences, by Department or Agency and Source of Funds, 1999-2000

Department or Agency	Departmental budget	Transfers from other Departments	Transfers from federal government	From trust funds	From business enterprises	From other sources	Total
in thousands of dollars							
Agriculture, Food and Rural Development	33,134	-	-	-	-	-	33,134
Community Development	2,370	-	-	-	-	-	2,370
Environmental Protection	21,470	2,430	140	80	310	570	25,000
Health and Wellness	10,776	-	-	-	-	-	10,776
Infrastructure	9,504	35	35	-	64	10	9,648
Innovation and Science:							
Alberta Agricultural Research Institute	7,383	-	-	-	-	-	7,383
Alberta Energy Research Institute	719	-	-	6,930	-	-	7,649
Alberta Heritage Foundation for Medical Research	-	4,040	-	-	-	41,369	45,409
Alberta Science and Research Authority	46,151	-	-	-	-	32,250	78,401
Sub-total Innovation and Science	54,253	4,040	-	6,930	-	73,619	138,842
Total	131,507	6,505	175	7,010	374	74,199	219,770

TABLE 30. Total Expenditures in the Natural Sciences, by Activity and Performing Sector, 1999-2000

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Research and development (R&D)							
Current expenditures:							
In-house R&D	20,126	...	...	...	...	...	20,126
R&D contracts	150	1,622	308	-	1,510	276	3,866
R&D grants and contributions	...	4,080	91,061	6,800	34,157	6,707	142,805
Research fellowships	-	-	-	-	-	-	-
Admin of extramural R&D programs	5,761	...	...	...	...	...	5,761
Sub-total current R&D	26,037	5,702	91,369	6,800	35,667	6,983	172,558
Capital expenditures	40	...	...	...	...	...	40
Total R&D	26,077	5,702	91,369	6,800	35,667	6,983	172,598
Related scientific activities (RSA)							
Current expenditures:							
Education support	90	-	-	-	-	-	90
Technical surveys	15,500	9,257	240	-	700	990	26,687
Information services	10,265	75	-	-	-	-	10,340
Special services and studies	3,452	1,518	190	275	-	1,163	6,598
Museum services	2,520	-	-	-	-	-	2,520
Admin of extramural RSA programs	787	...	...	...	...	...	787
Sub-total current RSA	32,614	10,850	430	275	700	2,153	47,022
Capital expenditures	150	...	...	...	...	...	150
Total RSA	32,764	10,850	430	275	700	2,153	47,172
Total	58,841	16,552	91,799	7,075	36,367	9,136	219,770

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 31. Total Expenditures in the Natural Sciences, by Department or Agency and Performing Sector, 1999-2000

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	32,858	-	140	-	-	136	33,134
Community Development	2,370	-	-	-	-	-	2,370
Environmental Protection	16,040	4,930	620	-	2,230	1,180	25,000
Health and Wellness	176	-	1,950	5,575	-	3,075	10,776
Infrastructure	1,864	7,402	118	-	-	264	9,648
Innovation and Science:							
Alberta Agricultural Research Institute	240	270	2,282	-	2,488	2,103	7,383
Alberta Energy Research Institute	719	3,825	1,282	-	1,773	50	7,649
Alberta Heritage Foundation for Medical Research	4,574	-	40,835	-	-	-	45,409
Alberta Science and Research Authority	-	125	44,572	1,500	29,876	2,328	78,401
Sub-total Innovation and Science	5,533	4,220	88,971	1,500	34,137	4,481	138,842
Total	58,841	16,552	91,799	7,075	36,367	9,136	219,770

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 32. Total Expenditures in the Natural Sciences, by Department or Agency and Activity, 1999-2000

Department or agency	Research and development			Related scientific activities							Total
	=====			=====							
	Current	AEP ¹	Capital	Education support	Technical surveys	Information services	Special services and studies	Museum services	AEP ¹	Capital	
in thousands of dollars											
Agriculture, Food and Rural Development	19,847	8	-	-	2,656	9,295	1,328	-	-	-	33,134
Community Development	-	-	-	-	-	-	-	2,370	-	-	2,370
Environmental Protection	3,140	110	40	90	17,430	980	2,640	150	270	150	25,000
Health and Wellness	9,950	-	-	-	-	-	694	-	132	-	10,776
Infrastructure	1,431	110	-	-	6,601	-	1,121	-	385	-	9,648
Innovation and Science:											
Alberta Agricultural Research Institute	6,388	240	-	-	-	65	690	-	-	-	7,383
Alberta Energy Research Institute	6,930	719	-	-	-	-	-	-	-	-	7,649
Alberta Heritage Foundation for Medical Research	40,835	4,574	-	-	-	-	-	-	-	-	45,409
Alberta Science and Research Authority	78,276	-	-	-	-	-	125	-	-	-	78,401
Sub-total Innovation and Science	132,429	5,533	-	-	-	65	815	-	-	-	138,842
Total	166,797	5,761	40	90	26,687	10,340	6,598	2,520	787	150	219,770

¹ Administration of extramural programs

TABLE 33. Total Expenditures on R&D in the Natural Sciences, by Department or Agency and Performing Sector, 1999-2000

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	19,579	-	140	-	-	136	19,855
Community Development	-	-	-	-	-	-	-
Environmental Protection	690	590	290	-	1,530	190	3,290
Health and Wellness	-	-	1,950	5,300	-	2,700	9,950
Infrastructure	275	1,082	18	-	-	166	1,541
Innovation and Science:							
Alberta Agricultural Research Institute	240	205	2,282	-	2,488	1,413	6,628
Alberta Energy Research Institute	719	3,825	1,282	-	1,773	50	7,649
Alberta Heritage Foundation for Medical Research	4,574	-	40,835	-	-	-	45,409
Alberta Science and Research Authority	-	-	44,572	1,500	29,876	2,328	78,276
Sub-total Innovation and Science	5,533	4,030	88,971	1,500	34,137	3,791	137,962
Total	26,077	5,702	91,369	6,800	35,667	6,983	172,598

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 34. Intramural Expenditures in the Natural Sciences, by Department or Agency and Type of Expenditure, 1999-2000

Department or agency	Current expenditures		Capital expenditures	Total
	=====			
	Personnel costs	Other costs		
in thousands of dollars				
Agriculture, Food and Rural Development	32,858	-	-	32,858
Community Development	2,000	370	-	2,370
Environmental Protection	12,290	3,560	190	16,040
Health and Wellness	176	-	-	176
Infrastructure	1,864	-	-	1,864
Innovation and Science:				
Alberta Agricultural Research Institute	240	-	-	240
Alberta Energy Research Institute	586	133	-	719
Alberta Heritage Foundation for Medical Research	1,555	3,019	-	4,574
Alberta Science and Research Authority	-	-	-	-
Sub-total Innovation and Science	2,381	3,152	-	5,533
Total	51,569	7,082	190	58,841

TABLE 35. Personnel Engaged in Natural Science Activities, by Department or Agency and Activity, 1999-2000

Department or agency	Research and development =====								
	Intramural R&D			Administration of Extramural R&D			Total R&D		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	87	131	-	-	-	-	87	131	-
Community Development	-	-	-	-	-	-	-	-	-
Environmental Protection	5	1	1	2	-	1	7	1	-
Health and Wellness	-	-	-	-	-	-	-	-	-
Infrastructure	3	1	-	1	1	1	4	2	-
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	-
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	21	13	3	2
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	22	3	28	22	3	2
Total	95	133	1	25	4	30	120	137	3

Department or agency	Related Scientific Activities =====								
	Intramural RSA			Administration of Extramural RSA			Total RSA		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	44	66	-	-	-	-	44	66	-
Community Development	20	6	4	-	-	-	20	6	4
Environmental Protection	86	110	15	5	1	-	91	111	15
Health and Wellness	1	-	-	1	-	2	2	-	2
Infrastructure	3	8	4	3	9	-	6	17	4
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	-	-	-	-	-	-
Total	154	190	23	9	10	2	163	200	25

Department or agency	Total Scientific Personnel =====								
	Intramural			Administration of Extramural			Total		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	131	197	-	-	-	-	131	197	-
Community Development	20	6	4	-	-	-	20	6	4
Environmental Protection	91	111	16	7	1	1	98	112	17
Health and Wellness	1	-	-	1	-	2	2	-	2
Infrastructure	6	9	4	4	10	1	10	19	5
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	3
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	4
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	21	13	3	21
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	22	3	28	22	3	28
Total	249	323	24	34	14	32	283	337	56

TABLE 36. Objectives of Expenditures in the Natural Sciences, by Department or Agency, 1999-2000

Department or agency	Exploration and Utilization of the Earth	Infrastructure and General Planning of Land Use =====			Pollution and Protection of the Environment	Public Health
		Transport	Telecommunication	Other		
in thousands of dollars						
Agriculture, Food and Rural Development	-	-	-	-	-	-
Community Development	-	-	-	-	-	-
Environmental Protection	-	-	-	-	25,000	-
Health and Wellness	-	-	-	-	-	10,776
Infrastructure	-	7,026	-	2,622	-	-
Innovation and Science:						
Alberta Agricultural Research Institute	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	86	20	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	45,409
Alberta Science and Research Authority	1,803	-	1,943	-	-	20,327
Sub-total Innovation and Science	1,803	-	1,943	86	20	65,736
Total	1,803	7,026	1,943	2,708	25,020	76,512

Department or agency	Production, Distribution and Rational Utilization of Energy	Agricultural Production and Technology	Fishing	Forestry	Industrial Production and Technology
in thousands of dollars					
Agriculture, Food and Rural Development	-	33,134	-	-	-
Community Development	-	-	-	-	-
Environmental Protection	-	-	-	-	-
Health and Wellness	-	-	-	-	-
Infrastructure	-	-	-	-	-
Innovation and Science:					
Alberta Agricultural Research Institute	-	7,383	-	-	-
Alberta Energy Research Institute	7,543	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-
Alberta Science and Research Authority	1,446	3,260	-	-	600
Sub-total Innovation and Science	8,989	10,643	-	-	600
Total	8,989	43,777	-	-	600

Department or agency	Social development	Exploration and Exploitation of Space	Basic Research	Other Civil Research	Total
in thousands of dollars					
Agriculture, Food and Rural Development	-	-	-	-	33,134
Community Development	2,370	-	-	-	2,370
Environmental Protection	-	-	-	-	25,000
Health and Wellness	-	-	-	-	10,776
Infrastructure	-	-	-	-	9,648
Innovation and Science:					
Alberta Agricultural Research Institute	-	-	-	-	7,383
Alberta Energy Research Institute	-	-	-	-	7,649
Alberta Heritage Foundation for Medical Research	-	-	-	-	45,409
Alberta Science and Research Authority	-	-	48,822	200	78,401
Sub-total Innovation and Science	-	-	48,822	200	138,842
Total	2,370	-	48,822	200	219,770

TABLE 37. Objectives of Expenditures in the Natural Sciences, by Activity, 1999-2000

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
in thousands of dollars					
Exploration and Utilization of the Earth	-	-	1,803	-	1,803
Infrastructure and General Planning of Land Use					
Transport	270	1,389	1,249	4,118	7,026
Telecommunication	-	-	1,943	-	1,943
Other	5	200	103	2,400	2,708
Pollution and Protection of the Environment	690	15,350	2,620	6,360	25,020
Public Health	4,574	176	71,112	650	76,512
Production, Distribution and Rational					
Utilization of Energy	719	-	8,270	-	8,989
Agricultural Production and Technology	19,819	13,279	9,924	755	43,777
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial Production and Technology	-	-	600	-	600
Social Development	-	2,370	-	-	2,370
Exploration and Exploitation of Space	-	-	-	-	-
Basic Research	-	-	48,697	125	48,822
Other Civil Research	-	-	200	-	200
Total	26,077	32,764	146,521	14,408	219,770

TABLE 38. Total Expenditures in the Natural Sciences, by Activity and Performing Sector, 2000-2001 Estimates

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Research and development (R&D)							
Current expenditures:							
In-house R&D	20,521	...	...	...	...	...	20,521
R&D contracts	130	1,574	648	-	1,180	126	3,658
R&D grants and contributions	...	3,149	91,551	6,425	42,703	7,465	151,293
Research fellowships	-	-	-	-	-	-	-
Admin of extramural R&D programs	6,168	...	...	...	...	...	6,168
Sub-total current R&D	26,819	4,723	92,199	6,425	43,883	7,591	181,640
Capital expenditures	40	...	...	...	...	...	40
Total R&D	26,859	4,723	92,199	6,425	43,883	7,591	181,680
Related scientific activities (RSA)							
Current expenditures:							
Education support	80	-	-	-	-	-	80
Technical surveys	11,810	8,803	250	-	70	1,100	22,033
Information services	9,287	-	10	-	-	-	9,297
Special services and studies	7,194	1,880	550	275	-	1,640	11,539
Museum services	2,520	-	-	-	-	-	2,520
Admin of extramural RSA programs	756	...	...	...	...	...	756
Sub-total current RSA	31,647	10,683	810	275	70	2,740	46,225
Capital expenditures	140	...	...	...	...	...	140
Total RSA	31,787	10,683	810	275	70	2,740	46,365
Total	58,646	15,406	93,009	6,700	43,953	10,331	228,045

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 39. Total Expenditures in the Natural Sciences, by Department or Agency and Performing Sector, 2000-2001 Estimates

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	33,030	-	20	-	-	220	33,270
Community Development	2,370	-	-	-	-	-	2,370
Economic Development	-	-	-	-	-	-	-
Environmental Protection	14,950	4,830	1,490	-	1,250	1,140	23,660
Health and Wellness	212	-	1,950	5,575	-	4,655	12,392
Infrastructure	2,144	7,327	18	-	-	251	9,740
Innovation and Science:							
Alberta Agricultural Research Institute	240	215	2,534	-	2,536	2,227	7,752
Alberta Energy Research Institute	700	2,134	2,027	-	3,312	263	8,436
Alberta Heritage Foundation for Medical Research	5,000	-	45,000	-	-	-	50,000
Alberta Science and Research Authority	-	900	39,970	1,125	36,855	1,575	80,425
Sub-total Innovation and Science	5,940	3,249	89,531	1,125	42,703	4,065	146,613
Total	58,646	15,406	93,009	6,700	43,953	10,331	228,045

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 40. Total Expenditures in the Natural Sciences, by Department or Agency and Activity, 2000-2001 Estimates

Department or agency	Research and development			Related scientific activities							Total
	=====			=====							
	Current	AEP ¹	Capital	Education support	Technical surveys	Information services	Special services and studies	Museum services	AEP ¹	Capital	
in thousands of dollars											
Agriculture, Food and Rural Development	20,281	8	-	-	2,596	9,087	1,298	-	-	-	33,270
Community Development	-	-	-	-	-	-	-	2,370	-	-	2,370
Environmental Protection	3,390	110	40	80	12,490	210	6,850	150	200	140	23,660
Health and Wellness	11,050	-	-	-	-	-	1,176	-	166	-	12,392
Infrastructure	878	110	-	-	6,947	-	1,415	-	390	-	9,740
Innovation and Science:											
Alberta Agricultural Research Institute	6,812	240	-	-	-	-	700	-	-	-	7,752
Alberta Energy Research Institute	7,736	700	-	-	-	-	-	-	-	-	8,436
Alberta Heritage Foundation for Medical Research	45,000	5,000	-	-	-	-	-	-	-	-	50,000
Alberta Science and Research Authority	80,325	-	-	-	-	-	100	-	-	-	80,425
Sub-total Innovation and Science	139,873	5,940	-	-	-	-	800	-	-	-	146,613
Total	175,472	6,168	40	80	22,033	9,297	11,539	2,520	756	140	228,045

¹ Administration of extramural programs

TABLE 41. Total Expenditures on R&D in the Natural Sciences, by Department or Agency and Performing Sector, 2000-2001 Estimates

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Agriculture, Food and Rural Development	20,049	-	20	-	-	220	20,289
Community Development	-	-	-	-	-	-	-
Environmental Protection	620	1,020	680	-	1,180	40	3,540
Health and Wellness	-	-	1,950	5,300	-	3,800	11,050
Infrastructure	250	554	18	-	-	166	988
Innovation and Science:							
Alberta Agricultural Research Institute	240	215	2,534	-	2,536	1,527	7,052
Alberta Energy Research Institute	700	2,134	2,027	-	3,312	263	8,436
Alberta Heritage Foundation for Medical Research	5,000	-	45,000	-	-	-	50,000
Alberta Science and Research Authority	-	800	39,970	1,125	36,855	1,575	80,325
Sub-total Innovation and Science	5,940	3,149	89,531	1,125	42,703	3,365	145,813
Total	26,859	4,723	92,199	6,425	43,883	7,591	181,680

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 42. Personnel Engaged in Natural Science Activities, by Department or Agency and Activity, 2000-2001 Estimates

Department or agency	Research and development								
	Intramural R&D			Administration of Extramural R&D			Total R&D		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	88	133	-	-	-	-	88	133	-
Community Development	-	-	-	-	-	-	-	-	-
Environmental Protection	4	1	2	2	-	-	6	1	2
Health and Wellness	-	-	-	-	-	-	-	-	-
Infrastructure	3	1	-	2	-	1	5	1	1
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	3
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	4
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	17	13	3	17
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	22	3	24	22	3	24
Total	95	135	2	26	3	25	121	138	27

Department or agency	Related Scientific Activities								
	Intramural RSA			Administration of Extramural RSA			Total RSA		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	45	68	-	-	-	-	45	68	-
Community Development	20	6	4	-	-	-	20	6	4
Environmental Protection	90	102	13	-	-	-	90	102	13
Health and Wellness	1	-	-	1	-	2	2	-	2
Infrastructure	3	12	4	2	10	-	5	22	4
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	-	-	-	-	-	-
Total	159	188	21	3	10	2	162	198	23

Department or agency	Total Scientific Personnel								
	Intramural			Administration of Extramural			Total		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Agriculture, Food and Rural Development	133	201	-	-	-	-	133	201	-
Community Development	20	6	4	-	-	-	20	6	4
Environmental Protection	94	103	15	2	-	-	96	103	15
Health and Wellness	1	-	-	1	-	2	2	-	2
Infrastructure	6	13	4	4	10	1	10	23	5
Innovation and Science:									
Alberta Agricultural Research Institute	-	-	-	4	-	3	4	-	3
Alberta Energy Research Institute	-	-	-	5	-	4	5	-	4
Alberta Heritage Foundation for Medical Research	-	-	-	13	3	17	13	3	17
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Sub-total Innovation and Science	-	-	-	22	3	24	22	3	24
Total	254	323	23	29	13	27	283	336	50

TABLE 43. Objectives of Expenditures in the Natural Sciences, by Department or Agency, 2000-2001 Estimates

Department or agency	Exploration and Utilization of the Earth	Infrastructure and General Planning of Land Use =====			Pollution and Protection of the Environment	Public Health
		Transport	Telecommunication	Other		
in thousands of dollars						
Agriculture, Food and Rural Development	-	-	-	-	-	-
Community Development	-	-	-	-	-	-
Environmental Protection	-	-	-	-	23,660	-
Health and Wellness	-	-	-	-	-	12,392
Infrastructure	-	7,118	-	2,622	-	-
Innovation and Science:						
Alberta Agricultural Research Institute	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	263	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	50,000
Alberta Science and Research Authority	993	-	937	-	-	18,793
Sub-total Innovation and Science	993	-	937	-	263	68,793
Total	993	7,118	937	2,622	23,923	81,185

Department or agency	Production, Distribution and Rational Utilization of Energy	Agricultural Production and Technology	Fishing	Forestry	Industrial Production and Technology
in thousands of dollars					
Agriculture, Food and Rural Development	-	33,270	-	-	-
Community Development	-	-	-	-	-
Environmental Protection	-	-	-	-	-
Health and Wellness	-	-	-	-	-
Infrastructure	-	-	-	-	-
Innovation and Science:					
Alberta Agricultural Research Institute	-	7,752	-	-	-
Alberta Energy Research Institute	8,173	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-
Alberta Science and Research Authority	134	-	-	-	600
Sub-total Innovation and Science	8,307	7,752	-	-	600
Total	8,307	41,022	-	-	600

Department or agency	Social development	Exploration and Exploitation of Space	Basic Research	Other Civil Research	Total
in thousands of dollars					
Agriculture, Food and Rural Development	-	-	-	-	33,270
Community Development	2,370	-	-	-	2,370
Environmental Protection	-	-	-	-	23,660
Health and Wellness	-	-	-	-	12,392
Infrastructure	-	-	-	-	9,740
Innovation and Science:					
Alberta Agricultural Research Institute	-	-	-	-	7,752
Alberta Energy Research Institute	-	-	-	-	8,436
Alberta Heritage Foundation for Medical Research	-	-	-	-	50,000
Alberta Science and Research Authority	-	-	58,218	750	80,425
Sub-total Innovation and Science	-	-	58,218	750	146,613
Total	2,370	-	58,218	750	228,045

TABLE 44. Objectives of Expenditures in the Natural Sciences, by Activity, 2000-2001 Estimates

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
in thousands of dollars					
Exploration and Utilization of the Earth	-	-	993	-	993
Infrastructure and General Planning of Land Use					
Transport	245	1,694	721	4,458	7,118
Telecommunication	-	-	937	-	937
Other	5	200	17	2,400	2,622
Pollution and Protection of the Environment	620	14,330	3,183	5,790	23,923
Public Health	5,000	212	74,843	1,130	81,185
Production, Distribution and Rational					
Utilization of Energy	700	-	7,607	-	8,307
Agricultural Production and Technology	20,289	12,981	7,052	700	41,022
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial Production and Technology	-	-	600	-	600
Social Development	-	2,370	-	-	2,370
Exploration and Exploitation of Space	-	-	-	-	-
Basic Research	-	-	58,118	100	58,218
Other Civil Research	-	-	750	-	750
Total	26,859	31,787	154,821	14,578	228,045

Statistical Tables

Social Sciences and Humanities

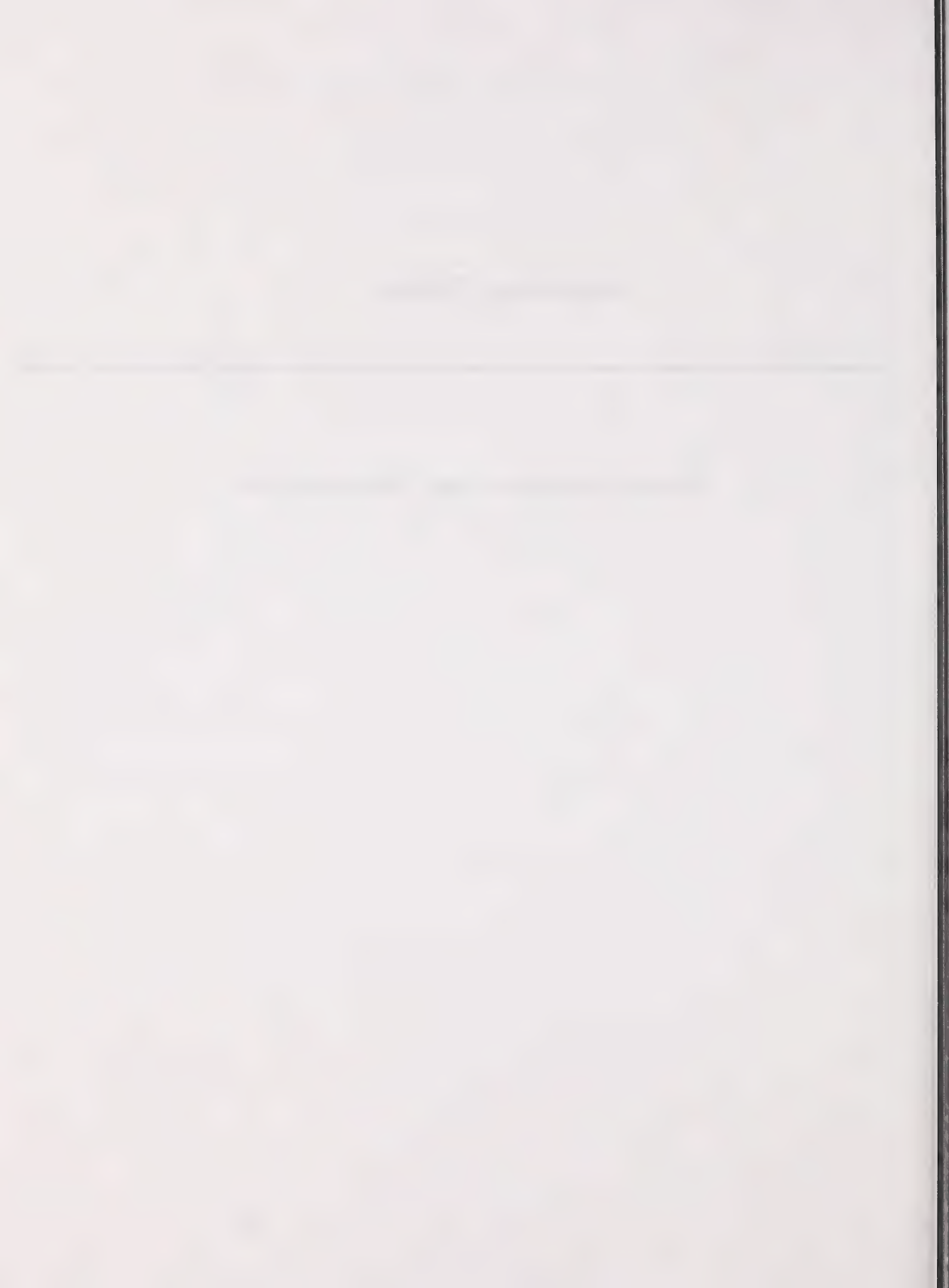


TABLE 45. Total Expenditures in the Social Sciences and Humanities, by Activity, 1992-93 to 2000-2001 Estimates

Activity	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Research and development (R&D)									
Current expenditures:									
In-house R&D	389	468	108	50	12	30	-	-	-
R&D contracts	197	481	176	77	66	-	-	-	-
R&D grants and contributions	1,932	3,435	573	346	320	570	570	570	570
Research fellowships	-	18	-	-	-	-	-	-	-
Admin of extramural R&D programs	171	181	10	-	-	-	-	50	25
Sub-total current R&D	2,689	4,583	867	473	398	600	570	620	595
Capital expenditures	-	-	-	-	-	-	-	-	-
Total R&D	2,689	4,583	867	473	398	600	570	620	595
Related scientific activities (RSA)									
Current expenditures	29,996	21,522	17,415	11,128	11,046	12,467	11,439	12,988	14,040
Admin of extramural RSA programs	1,257	376	222	709	190	279	256	1,214	1,465
Sub-total current RSA	31,253	21,898	17,637	11,837	11,236	12,746	11,695	14,202	15,505
Capital expenditures	437	158	153	-	-	125	-	-	-
Total RSA	31,690	22,056	17,790	11,837	11,236	12,871	11,695	14,202	15,505
Total	34,379	26,639	18,657	12,310	11,634	13,471	12,265	14,822	16,100

TABLE 46. Total Expenditures in the Social Sciences and Humanities, by Department or Agency, 1992-93 to 2000-2001 Estimates

Department or Agency	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^a
in thousands of dollars									
Access Network	176	111	...	...	...	...	...	...	...
Advanced Education and Career Development	2,100	1,079	602	1,513	-	-	-	...	...
Alcohol and Drug Abuse Commission	1,160	739	...	...	...	...	...	...	...
Community Development	14,570	12,706	12,941	5,533	5,530	5,530	5,530	5,530	5,530
Economic Development and Tourism	3,330	118	1,059	778	387	295	600	-	-
Education	2,607	4,712	449	355	232	153	161	...	...
Environmental Protection	88	58	44	30	-	-	-	-	-
Environment Council	1,700	1,530	...	...	...	...	...	...	...
Family and Social Services	...	...	135	180	460	231	243	...	...
Health and Wellness	3,114	3,132	2,663	2,765	2,907	4,967	3,529	5,048	5,810
Innovation and Science:									
Alberta Science and Research Authority	...	...	276	359	1,464	1,516	1,442	3,484	4,000
Justice	2,244	530	488	797	654	779	760	760	760
Labour	198	68	...	...	...	...	...	...	...
Municipal Affairs	1,203	1,151	...	...	...	...	...	...	...
Transportation and Utilities	-	-	-	-	-	-	...	...	...
Treasury	1,889	705	...	...	...	...	...	...	...
Total	34,379	26,639	18,657	12,310	11,634	13,471	12,265	14,822	16,100

TABLE 47. Total Expenditures in the Social Sciences and Humanities, by Performing Sector, 1992-93 to 2000-2001 Estimates

Performing sector	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^a
in thousands of dollars									
Intramural	25,960	18,828	14,252	8,230	7,384	7,551	7,908	9,185	9,571
Business Enterprises	4,221	1,783	1,815	1,770	1,035	1,448	1,935	845	1,607
Higher Education	1,909	1,548	1,533	141	1,534	2,117	1,074	872	871
Hospitals and health organizations	573	658	334	1,198	1,578	1,120	536	1,055	1,055
Alberta Research Council ¹	10	2,008	5	5	-	-	-	-	-
Other	1,706	1,814	718	966	103	1,235	812	2,865	2,996
Total	34,379	26,639	18,657	12,310	11,634	13,471	12,265	14,822	16,100

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 48. Total Expenditures on R&D in the Social Sciences and Humanities, by Performing Sector, 1992-93 to 2000-2001 Estimates

Performing sector	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Intramural	649	708	118	50	12	30	-	50	25
Business Enterprises	98	45	176	77	-	-	-	-	-
Higher Education	1,407	1,352	568	-	346	250	250	250	250
Hospitals and health organizations	380	96	-	-	40	-	-	-	-
Alberta Research Council ¹	5	2,005	5	5	-	-	-	-	-
Other	150	377	-	341	-	320	320	320	320
Total	2,689	4,583	867	473	398	600	570	620	595

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 49. Total Expenditures on R&D in the Social Sciences and Humanities, by Department or Agency, 1992-93 to 2000-2001 Estimates

Department or Agency	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^e
in thousands of dollars									
Access Network	-	-	...	...	...	...	...	...	...
Advanced Education and Career Development	100	122	14	-	-	-	-	...	...
Alcohol and Drug Abuse Commission	323	225	...	...	...	...	...	...	...
Community Development	-	-	-	-	-	-	-	-	-
Economic Development and Tourism	148	86	264	127	-	-	-	-	-
Education	5	2,025	5	5	-	-	-	...	...
Environmental Protection	-	-	6	-	-	-	-	-	-
Environment Council	-	-	...	...	...	...	...	...	...
Family and Social Services	...	...	-	-	40	-	-	...	...
Health and Wellness	1,669	1,721	216	-	38	250	250	831	275
Innovation and Science:									
Alberta Science and Research Authority	...	...	-	-	-	-	-	-	-
Justice	404	404	362	341	320	350	320	440	320
Labour	40	-	...	...	...	...	...	...	...
Municipal Affairs	-	-	...	...	...	...	...	...	...
Transportation and Utilities	-	-	-	-	-	-	...	...	...
Treasury	-	-	...	...	...	...	...	...	...
Total	2,689	4,583	867	473	398	600	570	620	595

TABLE 50. Personnel Engaged in Social Sciences and Humanities Activities, by Activity and Category, 1992-93 to 2000-2001 Estimates

Activity and category	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001*
in thousands of dollars									
Research and development:									
Intramural R&D activities:									
Scientific and professional	7	10	2	1	1	1	-	-	-
Technical	-	-	-	-	-	-	-	-	-
Other	-	1	-	-	-	-	-	-	-
Sub-total intramural R&D activities personnel	7	11	2	1	1	1	-	-	-
Administration of extramural R&D programs:									
Scientific and professional	...	2	14	-	-	-	-	-	-
Technical	...	-	1	-	-	-	-	-	-
Other	...	2	1	-	-	-	-	-	-
Sub-total AEP for R&D personnel	...	4	16	-	-	-	-	-	-
Sub-total R&D Personnel	7	15	18	1	1	1	-	-	-
Related scientific activities:									
Intramural RSA:									
Scientific and professional	200	206	154	84	72	73	75	85	85
Technical	152	42	28	11	12	12	12	10	10
Other	57	35	12	15	13	13	16	19	19
Sub-total RSA personnel	409	283	194	110	97	98	103	114	114
Administration of extramural RSA programs:									
Scientific and professional	...	5	3	9	2	2	3	5	7
Technical	...	-	-	-	1	-	1	-	-
Other	...	1	2	2	1	3	-	24	24
Sub-total AEP for RSA personnel:	...	6	5	11	4	5	4	29	31
Sub-total RSA Personnel	409	289	199	121	101	103	107	143	145
Administration of extramural programs: ¹									
Scientific and professional	13	...	...	...	...	...	...	...	...
Technical	10	...	...	...	...	...	...	...	...
Other	4	...	...	...	...	...	...	...	...
Sub-total AEP personnel	27	...	...	...	...	...	...	...	...
Total science activities									
Scientific and professional	220	223	173	94	75	76	78	90	92
Technical	162	42	29	11	13	12	13	10	10
Other	61	39	15	17	14	16	16	43	43
Total scientific personnel	443	304	217	122	102	104	107	143	145

¹ In 1992-93 the full-time equivalents devoted to the administration of extramural programs were not separated by activity and therefore are shown under the heading 'Administration of extramural programs'.

TABLE 51. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Source of Funds, 1999-2000

Department or agency	Departmental budget	Transfers from other Departments	Transfers from federal government	From trust funds	From business enterprises	From other sources	Total
in thousands of dollars							
Community Development	5,530	-	-	-	-	-	5,530
Health and Wellness	5,048	-	-	-	-	-	5,048
Innovation and Science							
Alberta Science and Research Authority	3,484	-	-	-	-	-	3,484
Justice	760	-	-	-	-	-	760
Total	14,822	-	-	-	-	-	14,822

TABLE 52. Total Expenditures in the Social Sciences and Humanities, by Activity and Performing Sector, 1999-2000

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Research and development (R&D)							
Current expenditures:							
In-house R&D	-	...	...	...	...	...	-
R&D contracts	-	-	-	-	-	-	-
R&D grants and contributions	...	-	250	-	-	320	570
Research fellowships	-	-	-	-	-	-	-
Admin of extramural R&D programs	50	...	...	...	...	...	50
Sub-total current R&D	50	-	250	-	-	320	620
Capital expenditures	-	...	...	...	...	...	-
Total R&D	50	-	250	-	-	320	620
Related scientific activities (RSA)							
Current expenditures	7,921	845	622	1,055	-	2,545	12,988
Admin of extramural RSA programs	1,214	...	...	...	...	...	1,214
Sub-total current RSA	9,135	845	622	1,055	-	2,545	14,202
Capital expenditures	-	...	...	...	...	...	-
Total RSA	9,135	845	622	1,055	-	2,545	14,202
Total	9,185	845	872	1,055	-	2,865	14,822

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 53. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Performing Sector, 1999-2000

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Community Development	4,830	100	600	-	-	-	5,530
Health and Wellness	831	345	272	1,055	-	2,545	5,048
Innovation and Science							
Alberta Science and Research Authority	3,084	400	-	-	-	-	3,484
Justice	440	-	-	-	-	320	760
Total	9,185	845	872	1,055	-	2,865	14,822

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 54. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Activity, 1999-2000

Department or agency	Research and development			Related scientific activities			Total
	=====			=====			
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
in thousands of dollars							
Community Development	-	-	-	5,530	-	-	5,530
Health and Wellness	250	50	-	4,493	255	-	5,048
Innovation and Science							
Alberta Science and Research Authority	-	-	-	2,525	959	-	3,484
Justice	320	-	-	440	-	-	760
Total	570	50	-	12,988	1,214	-	14,822

¹ Administration of extramural programs

TABLE 55. Total Expenditures on R&D in the Social Sciences and Humanities, by Department or Agency and Performing Sector, 1999-2000

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Community Development	-	-	-	-	-	-	-
Health and Wellness	50	-	250	-	-	-	300
Innovation and Science	-	-	-	-	-	-	-
Alberta Science and Research Authority	-	-	-	-	-	-	-
Justice	-	-	-	-	-	320	320
Total	50	-	250	-	-	320	620

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 56. Intramural Expenditures in the Social Sciences and Humanities, by Department or Agency and Type of Expenditure, 1999-2000

Department or agency	Current expenditures		Capital expenditures	Total
	=====			
	Personnel costs	Other costs		
in thousands of dollars				
Community Development	4,600	230	-	4,830
Health and Wellness	831	-	-	831
Innovation and Science				
Alberta Science and Research Authority	2,884	200	-	3,084
Justice	417	23	-	440
Total	8,732	453	-	9,185

TABLE 57. Personnel Engaged in Social Sciences and Humanities Activities, by Department or Agency and Activity, 1999-2000

Department or agency	Research and development =====								
	Intramural R&D			Administration of Extramural R&D			Total R&D		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Community Development	-	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	-	-	-	-
Innovation and Science	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-

Department or agency	Related Scientific Activities =====								
	Intramural RSA			Administration of Extramural RSA			Total RSA		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Community Development	50	10	11	-	-	-	50	10	11
Health and Wellness	8	-	1	5	-	1	13	-	2
Innovation and Science	19	-	6	-	-	23	19	-	29
Alberta Science and Research Authority	8	-	1	-	-	-	8	-	1
Total	85	10	19	5	-	24	90	10	43

Department or agency	Total Scientific Personnel =====								
	Intramural			Administration of Extramural			Total		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Community Development	50	10	11	-	-	-	50	10	11
Health and Wellness	8	-	1	5	-	1	13	-	2
Innovation and Science	19	-	6	-	-	23	19	-	29
Alberta Science and Research Authority	8	-	1	-	-	-	8	-	1
Total	85	10	19	5	-	24	90	10	43

TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Department or Agency, 1999-2000

Department or agency	Exploration and Utilization of the Earth	Infrastructure and General Planning of Land Use =====			Pollution and Protection of the Environment	Public Health
		Transport	Telecommunication	Other		
in thousands of dollars						
Community Development	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	4,988
Innovation and Science						
Alberta Science and Research Authority	-	-	-	-	-	-
Justice	-	-	-	-	-	-
Total	-	-	-	-	-	4,988

Department or agency	Production, Distribution and Rational Utilization of Energy	Agricultural Production and Technology	Fishing	Forestry	Industrial Production and Technology
in thousands of dollars					
Community Development	-	-	-	-	-
Health and Wellness	-	-	-	-	-
Innovation and Science					
Alberta Science and Research Authority	-	-	-	-	-
Justice	-	-	-	-	-
Total	-	-	-	-	-

Department or agency	Social development	Exploration and Exploitation of Space	Basic Research	Other Civil Research	Total
in thousands of dollars					
Community Development	5,530	-	-	-	5,530
Health and Wellness	60	-	-	-	5,048
Innovation and Science					
Alberta Science and Research Authority	-	-	-	3,484	3,484
Justice	760	-	-	-	760
Total	6,350	-	-	3,484	14,822

TABLE 59. Objectives of Expenditures in the Social Sciences and Humanities, by Activity, 1999-2000

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
in thousands of dollars					
Exploration and Utilization of the Earth	-	-	-	-	-
Infrastructure and General Planning of Land Use					
Transport	-	-	-	-	-
Telecommunication	-	-	-	-	-
Other	-	-	-	-	-
Pollution and Protection of the Environment	-	-	-	-	-
Public Health	50	721	250	3,967	4,988
Production, Distribution and Rational Utilization of Energy	-	-	-	-	-
Agricultural Production and Technology	-	-	-	-	-
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial Production and Technology	-	-	-	-	-
Social Development	-	5,330	320	700	6,350
Exploration and Exploitation of Space	-	-	-	-	-
Basic Research	-	-	-	-	-
Other Civil Research	-	3,084	-	400	3,484
Total	50	9,135	570	5,067	14,822

TABLE 60. Total Expenditures in the Social Sciences and Humanities, by Activity and Performing Sector, 2000-2001 Estimates

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Research and development (R&D)							
Current expenditures:							
In-house R&D	-	...	...	...	...	...	-
R&D contracts	-	-	-	-	-	-	-
R&D grants and contributions	...	-	250	-	-	320	570
Research fellowships	-	-	-	-	-	-	-
Admin of extramural R&D programs	25	...	...	...	...	...	25
Sub-total current R&D	25	-	250	-	-	320	595
Capital expenditures	-	...	...	...	...	...	-
Total R&D	25	-	250	-	-	320	595
Related scientific activities (RSA)							
Current expenditures	8,081	1,607	621	1,055	-	2,676	14,040
Admin of extramural RSA programs	1,465	...	...	...	...	...	1,465
Sub-total current RSA	9,546	1,607	621	1,055	-	2,676	15,505
Capital expenditures	-	...	...	...	...	...	-
Total RSA	9,546	1,607	621	1,055	-	2,676	15,505
Total	9,571	1,607	871	1,055	-	2,996	16,100

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 61. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Performing Sector, 2000-2001 Estimates

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Community Development	4,830	100	600	-	-	-	5,530
Health	1,101	707	271	1,055	-	2,676	5,810
Innovation and Science							
Alberta Science and Research Authority	3,200	800	-	-	-	-	4,000
Justice	440	-	-	-	-	320	760
Total	9,571	1,607	871	1,055	-	2,996	16,100

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 62. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Activity, 2000-2001 Estimates

Department or agency	Research and development			Related scientific activities			Total
	=====			=====			
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
in thousands of dollars							
Community Development	-	-	-	5,530	-	-	5,530
Health	250	25	-	5,070	465	-	5,810
Innovation and Science	-	-	-	3,000	1,000	-	4,000
Alberta Science and Research Authority	320	-	-	440	-	-	760
Justice							
Total	570	25	-	14,040	1,465	-	16,100

¹ Administration of extramural programs

TABLE 63. Total Expenditures on R&D in the Social Sciences and Humanities, by Department or Agency and Performing Sector, 2000-2001 Estimates

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Alberta Research Council ¹	Other	Total
in thousands of dollars							
Community Development	-	-	-	-	-	-	-
Health	25	-	250	-	-	-	275
Innovation and Science	-	-	-	-	-	-	-
Alberta Science and Research Authority	-	-	-	-	-	-	-
Justice	-	-	-	-	-	320	320
Total	25	-	250	-	-	320	595

¹ Includes only annual funding by the Government of Alberta - other funds are not included.

TABLE 64. Personnel Engaged in Social Sciences and Humanities Activities, by Department or Agency and Activity, 2000-2001 Estimates

Department or agency	Research and development =====								
	Intramural R&D			Administration of Extramural R&D			Total R&D		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Community Development	-	-	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-	-	-
Innovation and Science	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	-	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-

Department or agency	Related Scientific Activities =====								
	Intramural RSA			Administration of Extramural RSA			Total RSA		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Community Development	50	10	11	-	-	-	50	10	11
Health	8	-	1	7	-	1	15	-	2
Innovation and Science	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	19	-	6	-	-	23	19	-	29
Justice	8	-	1	-	-	-	8	-	1
Total	85	10	19	7	-	24	92	10	43

Department or agency	Total Scientific Personnel =====								
	Intramural			Administration of Extramural			Total		
	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other	Scientific & Professional	Technical	Other
full-time equivalent									
Community Development	50	10	11	-	-	-	50	10	11
Health	8	-	1	7	-	1	15	-	2
Innovation and Science	-	-	-	-	-	-	-	-	-
Alberta Science and Research Authority	19	-	6	-	-	23	19	-	29
Justice	8	-	1	-	-	-	8	-	1
Total	85	10	19	7	-	24	92	10	43

TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Department or Agency, 2000-2001 Estimates

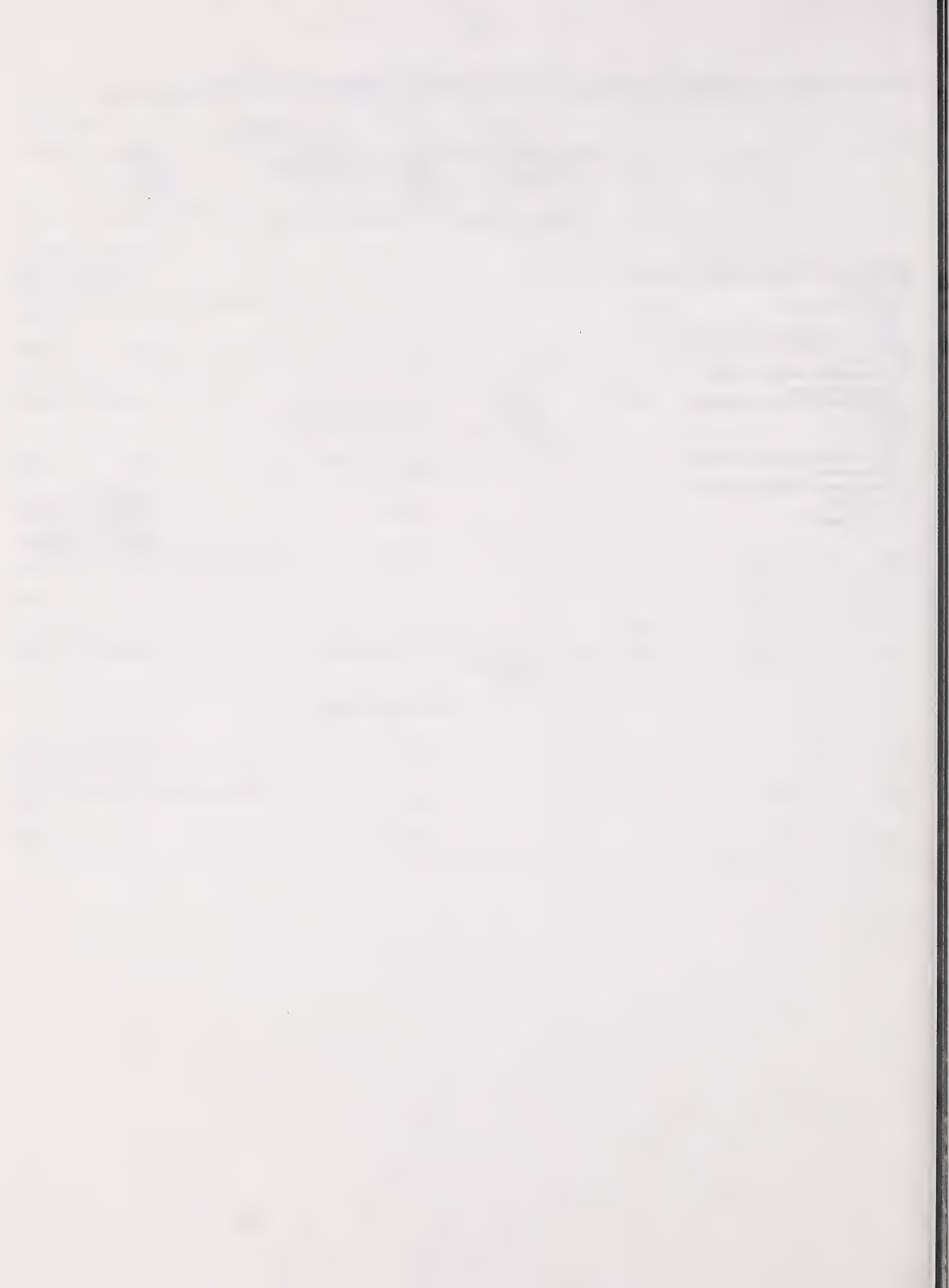
Department or agency	Exploration and Utilization of the Earth	Infrastructure and General Planning of Land Use =====	Telecommunication	Other	Pollution and Protection of the Environment	Public Health
		Transport				
in thousands of dollars						
Community Development	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	5,750
Innovation and Science						
Alberta Science and Research Authority	-	-	-	-	-	-
Justice	-	-	-	-	-	-
Total	-	-	-	-	-	5,750

Department or agency	Production, Distribution and Rational Utilization of Energy	Agricultural Production and Technology	Fishing	Forestry	Industrial Production and Technology
in thousands of dollars					
Community Development	-	-	-	-	-
Health and Wellness	-	-	-	-	-
Innovation and Science					
Alberta Science and Research Authority	-	-	-	-	-
Justice	-	-	-	-	-
Total	-	-	-	-	-

Department or agency	Social development	Exploration and Exploitation of Space	Basic Research	Other Civil Research	Total
in thousands of dollars					
Community Development	5,530	-	-	-	5,530
Health and Wellness	60	-	-	-	5,810
Innovation and Science					
Alberta Science and Research Authority	-	-	-	4,000	4,000
Justice	760	-	-	-	760
Total	6,350	-	-	4,000	16,100

TABLE 66. Objectives of Expenditures in the Social Sciences and Humanities, by Activity, 2000-2001 Estimates

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
in thousands of dollars					
Exploration and Utilization of the Earth	-	-	-	-	-
Infrastructure and General Planning of Land Use					
Transport	-	-	-	-	-
Telecommunication	-	-	-	-	-
Other	-	-	-	-	-
Pollution and Protection of the Environment	-	-	-	-	-
Public Health	25	1,016	250	4,459	5,750
Production, Distribution and Rational Utilization of Energy	-	-	-	-	-
Agricultural Production and Technology	-	-	-	-	-
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial Production and Technology	-	-	-	-	-
Social Development	-	5,330	320	700	6,350
Exploration and Exploitation of Space	-	-	-	-	-
Basic Research	-	-	-	-	-
Other Civil Research	-	3,200	-	800	4,000
Total	25	9,546	570	5,959	16,100



Appendix

The Respondents

The following government Departments and agencies are currently involved in scientific activities in Alberta. The person listed, coordinated the reporting of expenditures in the Department or agency. We wish to thank the co-ordinators, as well as those assisting in the amalgamation of data, for their time and efforts in providing us with these statistics.

Agriculture, Food and Rural Development

Co-ordinator: Mr. Rong-Cai Young Tel: (780) 415-2716 Fax (780) 427-3252

In previous years, Alberta Agriculture, Food and Rural Development (AFRD) reported activities of the Alberta Agricultural Research Institute (AARI). With the government re-organization, which took place in the spring of 1999, responsibility of AARI was moved to Innovation and Science. In this survey report you will find the scientific activities of AARI reported under the Department of Innovation and Science.

Natural science expenditures reported by AFRD include activities of the following Divisions:

- Animal Industry
- Economics and Competitiveness
- Food Safety
- Plant Industry
- Processing Industry
- Resource Management and Irrigation
- Technical Services

Sixty percent of the Department's activities in 1999-2000 are for R&D, of which ninety nine percent were performed intramurally.

Community Development

Co-ordinator: Mr. Mark Rasmussen Tel: (780) 431-2306

The Cultural Facilities and Historical Resources Division reports both natural and social science expenditures in museum services in 1999-2000. The Division operates a number of major provincial heritage facilities including museums, historic sites and interpretive centres.

Estimates for museum services activities by the Department of Community Development have remained the same since 1996-97.

Environmental Protection

Co-ordinator: Mr. Cal Webb Tel: (780) 427-1625 Fax (780) 422-5136

The Department reports natural science expenditures to be \$25.0 million in 1999-2000. There are three major services in Environmental Protection that report scientific activities:

- Environmental Service
- Land and Forest Service
- Natural Resource Service

Of the \$25.0 million spent on scientific activities in 1999-2000, \$16.0 million (64%) is performed intramurally, almost \$5.0 million contracted out to business enterprise and \$2.2 million are contracts with the Alberta Research Council. Thirteen percent of the activities are spent on R&D and the remaining 87% on related scientific activities.

Health and Wellness

Co-ordinator: Mr. Alexander Smoliak Tel: (780) 415-2203 Fax (780) 427-2511

The Policy and Planning Services Division co-ordinates scientific activities responses from the following Branches:

- Alcohol and Drug Abuse Commission
- Alberta we//net
- Disease Control and Prevention
- Federal / Provincial Relations
- Health Resourcing
- Health Surveillance
- Health System Utilization Analysis
- Physician Services
- Policy
- Population Health Strategies
- Standards and Measures

Expenditures are reported in both natural and social sciences.

In the natural sciences, Health and Wellness funded \$5.3 million to the Alberta Cancer Board for applied cancer research, \$2.7 million was funded to the Alberta Heritage Foundation for Medical Research, and \$1.9 million was granted to the Higher Education sector for health surveillance activities.

In the social sciences, \$5.0 million was spent on scientific activities in 1999-2000. Almost all activities are related scientific activities. The hospitals and health organizations sector performed 21% of the social science activities, the other sector 50%, and intramural (16%). Activities include evaluations, analysis and research studies relating to health issues. The substantial increase in the "Other" sector of performance is due to new monies reported by the Health Surveillance branch for the Alberta Population Health Survey and Solution Gas Flaring Study.

Infrastructure

Co-ordinator: Mr. Allan Lo Tel: (780) 415-1021 Fax (780) 422-2846

Natural science activities total \$9.6 million by the Department of Infrastructure in 1999-2000. Sixteen percent of the activities are R&D, the remainder are spent on related scientific activities relating to transportation. Activities are both intramural (19%) and extramural (81%).

Examples of R&D activities are: new rail act policy, climate change initiatives, platooning and headway study, Alberta's advantage paper and pavement rehabilitation strategies. Related scientific activities include surface condition rating, statistical analysis of collisions, business analysis of safety aspects of motor transport and carrier industry, technical economic studies related to safety policy development and highway user safety industry.

Innovation and Science

During the government re-organization early in 1999, most of the government of Alberta's research and development activity was consolidated into the department of Innovation and Science. Due to the magnitude of scientific activities reported under Innovation and Science, this report will show activities detail at the agency level:

Alberta Agricultural Research Institute

Co-ordinator: Ms. Jacquie Browne Tel: (780) 422-6555 Fax (780) 427-3252

The Alberta Agricultural Research Institute, co-ordinates, supports and promotes agricultural research in Alberta. It was previously included in the scientific activities report of Agriculture, Food and Rural Development.

Natural Science R&D grants are provided to other government research stations, universities, the Alberta Research Council and the private sector in support of extramural research activities in: agricultural processing, crop production, land and water resources, livestock production, agricultural economics and marketing, technology transfer and utilization and environmental sustainability. Research projects that have the potential to improve net farm income and long-term viability of agriculture qualify for support.

**Alberta Energy Research
Institute**

Co-ordinator: Ms. Alice Hedges

Tel: (403) 297-8650 Fax (403) 297-3638

This year's survey includes expenditures of what used to be Alberta Oil Sands Technology and Research Authority (AOSTRA) who in February 1999, was transferred from the Department of Energy to the Department of Innovation and Science.

It's mandate is to encourage research relating to the efficient and economic recovery and processing of oil sands and related products including enhanced recovery methods for crude oil in an environmentally sound manner. The research program is funded by granting research funds from the AOSTRA Trust Fund to performing agencies. Areas in which research being done are as follows: Climate Change Technologies; In Situ Oil Sands and Heavy Oil; Oil Sands Mining and Extraction; Conventional Oil, Enhanced Oil Recovery and Natural Gas; Transportation and Marketing; Bitumen and Heavy Oil Upgrading; Environmental Technologies; University Programs and Technology Maintenance.

**Alberta Heritage Foundation for
Medical Research**

Co-ordinator: Dr. Jacques. Magnan

Tel: (780) 423-5727 Fax (780) 429-3509

The foundation, supported mainly by an endowment fund, sponsors medical research in Alberta. All activities (\$45.4 million) are in support of R&D in the natural sciences with ninety percent supporting research in the higher education sector, and the remainder being used to administer those extramural grants.

**Alberta Science and Research
Authority**

Co-ordinator: Mr. Blake Bartlett

Tel: (780) 427-1897 Fax (780) 422-5141

The Agency administers the Alberta Government's vote to the Alberta Research Council (\$27.1 million in 1999-2000). These expenditures are reported in the natural sciences.

Social science activities (\$3.5 million) in 1999-2000 are reported by ASRA, Agriculture and Life Sciences, Research and Technology Commercialization, and University Research units. These areas are responsible for developing science policy for the Alberta Government. All activities reported are related scientific activities. Eighty nine percent of the activities are conducted intramurally, the remaining 11% is contracted out to the business enterprise sector.

Within the Alberta Science and Research Authority, University Research and Strategic Investment is responsible for administering the Science and Research Fund (S&R), the Intellectual Infrastructure Partnership Program (IIPP) and the Research Excellence Envelope (REE).

The S&R Fund is a \$15 million per year funding program dedicated towards maximizing the effectiveness of science and research as an integral component to the success of the province in the global economy. The major objective of the S&R Fund is to support strategic science and research initiatives that produce human, social, environment or economic benefits for Albertans.

IIPP is a \$15 million per year funding program designed to increase research excellence and competitiveness of Alberta universities and research hospitals by investing strategically in their research infrastructure.

REE is a \$3.5 million per year funding program designed to reward and foster sustained research excellence at Alberta universities. It provides funding to help the universities to recruit and retain quality faculty and graduate students through research infrastructure enhancements such as equipment and labs, which support the research activities of the targeted faculty.

The IIPP and REE programs used to be reported by the department of Advanced Education and Career Development.

Justice

Co-ordinator: Mr. Don Mottershead

Tel: (780)415-2977 Fax. (780) 422-2829

The science expenditures of the Department are in the social science field and are reported by Strategic Management Services, Correctional Services and Public Security. Intramural activities include surveys, such as the Environics West Public Survey and the Victim Survey.

An R&D grant is given to the Alberta Law Reform Institute.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

1. Gross Domestic Expenditures on R&D in Canada, by Performing Sector, by Province, 1998⁽¹⁾

Province	Federal Government	Provincial Government	Provincial research organization	Business enterprise	Higher education	Private non-profit	All sectors
in millions of dollars							
Newfoundland	26	4	-	12	62	-	104
Prince Edward Island	9	-	-	2	7	-	18
Nova Scotia	78	5	1	51	133	1	269
New Brunswick	31	2	2	29	61	1	126
Québec ⁽³⁾	227	44	16	2,584	1,124	33	4,028
Ontario ⁽³⁾	278	51	-	5,181	1,600	114	7,224
Manitoba	46	1	-	90	114	16	267
Saskatchewan	50	3	8	71	121	-	253
Alberta	91	22	32	556	383	10	1,094
British Columbia	85	24	-	534	360	5	1,007
NCR - Québec	29	...	...	...	...	...	29
NCR - Ontario	776	...	...	...	...	...	776
Canada ⁽²⁾	1,728	156	61	9,111	3,963	182	15,201

2. Gross Domestic Expenditures on R&D in Canada, by Funding Sector, by Province, 1998⁽¹⁾

Province	Federal government	Provincial government	Provincial research organization	Business enterprise	Higher education	Private non-profit	Foreign	All sectors
in millions of dollars								
Newfoundland	45	6	-	18	34	-	1	104
Prince Edward Island	11	-	-	2	4	1	-	18
Nova Scotia	112	11	-	34	79	5	28	269
New Brunswick	43	8	-	34	33	6	2	126
Québec ⁽³⁾	549	194	-	2,291	547	101	346	4,028
Ontario ⁽³⁾	778	211	-	3,366	764	232	1,873	7,224
Manitoba	79	14	-	91	61	18	4	267
Saskatchewan	75	25	-	54	70	6	23	253
Alberta	179	117	-	421	172	25	180	1,094
British Columbia	203	54	-	456	178	30	86	1,007
NCR - Québec	29	-	-	-	-	-	-	29
NCR - Ontario	763	1	-	12	-	-	-	776
Canada ⁽²⁾	2,870	644	-	6,781	1,940	423	2,543	15,201

⁽¹⁾ "Estimates of Canadian Research and Development Expenditures (GERD), Canada 1989 to 2000* and by Province 1989 to 1998", Science, Innovation and Electronic Information, Division, Statistics Canada, February 2001, ST-01-01.

⁽²⁾ Includes the Yukon, Northwest Territories and Nunavut.

⁽³⁾ Federal Government excludes expenditures performed in the National Capital Region

3. Provincial indicators

Province	Population 1998 ⁽¹⁾		Provincial Gross Domestic Product Per capita 1998 ⁽²⁾		Gross Domestic Expenditures on Research and Development, 1998 ⁽³⁾		Provincial GERD / PGDP 1998 ⁽³⁾	
	in thousands	rank	dollars	rank	in millions of dollars	rank	percent	rank
Newfoundland	544	9	20,647	10	104	9	0.9	5
Prince Edward Island	137	10	20,810	9	18	10	0.6	10
Nova Scotia	937	7	22,530	8	270	5	1.3	3
New Brunswick	754	8	23,153	7	126	8	0.7	9
Québec ^(*)	7,332	2	26,418	5	4,028	2	2.1	1
Ontario ^(*)	11,426	1	32,612	2	7,224	1	1.9	2
Manitoba	1,136	5	26,309	6	267	6	0.9	6
Saskatchewan	1,026	6	28,097	4	253	7	0.9	8
Alberta	2,923	4	36,324	1	1,094	3	1.0	4
British Columbia	4,006	3	28,444	3	1,007	4	0.9	7
Canada⁽⁴⁾	30,323		29,740		15,201		1.7	

⁽¹⁾ CANSIM II, Table 051-0005.

⁽²⁾ Canadian Economic Observer, Catalogue no. 11-010-XPB, Monthly, November 2000.

⁽³⁾ Science Statistics, Catalogue no. 88-001-XIB, Vol. 24, no. 6, December 2000.

⁽⁴⁾ Includes the Yukon, the Northwest Territories and Nunavut.

Québec and Ontario GERD figures exclude Federal Government expenditures of \$805 million performed in the National Capital Region.

4. Federal Government Sector

Province	Total intramural research and development expenditures in the Federal Government sector, 1998-99 ⁽¹⁾		Distribution of Federal Government R&D Personnel, 1998	
			Scientific and Personnel	Total
	in millions of dollars	dollars per capita	FTE's	
Newfoundland	26	48	86	206
Prince Edward Island	9	66	22	80
Nova Scotia	78	83	272	658
New Brunswick	31	41	98	262
Québec	227	31	761	1,764
Ontario	278	24	1,121	2,392
Manitoba	46	40	169	444
Saskatchewan	50	49	162	445
Alberta	91	31	305	752
British Columbia	85	21	320	688
NCR - Québec	29	..	107	228
NCR - Ontario	776	..	2,417	5,752
Canada⁽²⁾	1,728	57	5,841	13,678

⁽¹⁾ Science Statistics, Catalogue no. 88-001-XIB, Vol. 24, no. 7, December 2000.

⁽²⁾ Includes the Yukon, the Northwest Territories and Nunavut.

5. Provincial Governments Sector

Province	Total Intramural R&D Expenditures, of Provincial Governments, 1998-99		Total Intramural R&D Expenditures of Provincial Research Organizations, 1998-99	
	in millions of dollars	dollars per capita	in millions of dollars	dollars per capita
Newfoundland	4 ^e	7	...	...
Prince Edward Island	- ^e	-	...	...
Nova Scotia	5 ^e	5	1	1
New Brunswick	2 ^e	3	2	3
Québec	44	6	16	2
Ontario	51	5	...	...
Manitoba	1	1	...	...
Saskatchewan	3	3	8	8
Alberta	22	8	32	11
British Columbia	24	6	-	-
Canada	156	5	61	2

6. Industry Sector

Province	R & D units	Total Intramural R&D Expenditures, 1998		Distribution of R & D Personnel, 1998	
				Professionals	Total
	no.	in millions of dollars	dollars per capita	FTE's	
Newfoundland	80	12	22	120	197
Prince Edward Island	19	2	15	32	49
Nova Scotia	152	52	55	325	641
New Brunswick	102	28	37	196	378
Québec	3,149	2,584	352	14,943	24,987
Ontario	2,393	5,181	453	26,456	38,770
Manitoba	202	90	79	487	977
Saskatchewan	120	71	69	319	729
Alberta	552	557	191	2,440	4,060
British Columbia	718	534	133	3,658	5,692
Canada⁽¹⁾	7,494	9,111	300	48,984	76,493

⁽¹⁾ Includes the Yukon, Northwest Territories and Nunavut.

7. Higher Education Sector

Province	Total research and development expenditures in the higher education sector, 1998-99 ⁽¹⁾			Sponsored research in universities, 1998-99 ⁽²⁾		
	in millions of dollars	dollars per capita	rank	in millions of dollars	dollars per capita	rank
Newfoundland	62	114	6	28	52	5
Prince Edward Island	7	50	10	3	22	10
Nova Scotia	133	142	2	55	59	4
New Brunswick	61	81	9	28	37	9
Québec	1,124	153	1	579	79	1
Ontario	1,599	140	3	837	73	2
Manitoba	114	100	7	54	47	7
Saskatchewan	121	118	5	51	50	6
Alberta	383	131	4	211	72	3
British Columbia	359	90	8	184	46	8
Canada	3,963	131		2,030	67	

⁽¹⁾ Science Statistics, Catalogue no. 88-001-X1B, Vol. 24, no. 7, December 2000.

⁽²⁾ Financial Statistics of Universities and Colleges, 1998-99, Report 2.24, Canadian Association of University Business Officers.

PROVINCIAL CO-ORDINATORS

Five provincial governments are currently sponsoring the Science and Innovation Survey Section in the collection of similar scientific activity data. Below is a list of co-ordinators for the various sponsoring Departments/Ministries.

Mr. Mark Garscadden
Manager, Science and Technology
Ministry of Energy, Science and Technology
56 Wellesley St. West,
11th Floor,
Toronto, Ontario
M7A 2E7 Tel.: (416) 314-8211
e-mail: garscama@est.gov.on.ca

Maria Fuccenecco
Analyst, Science, Technology and Telecommunications
Division
Information, Science and Technology Agency
3rd Floor, 563 Superior Street,
Victoria, British Columbia
V8W 9V1 Tel.: (250) 387-5027
e-mail: maria.fuccenecco@gems3.gov.bc.ca

Mr. Dhiraj Seth
Economic Policy Analyst, Policy Division
Saskatchewan Economic & Cooperative Development
800 - 1919 Saskatchewan Drive
Regina, Saskatchewan
S4P 4H2 Tel.: (306) 787-9549
e-mail: dhiraj.seth@ecd.gov.sk.ca

Mme C. Charron
Direction des statistique sur les industries
Institut de la statistique du Québec
200, chemin Sainte-Foy
Québec, (Québec)
G1K 5T4 Tél.: (418) 691-2408
e-mail: christiane.charron@bsq.gouv.qc.ca

Dr. R. Humble
Policy Advisor, Research and Economic Services
Manitoba Industry, Trade and Tourism
155 Carlton Street, Room 675
Winnipeg, Manitoba
R3C 3H8 Tel.: (204) 945-0127
e-mail: rhumble@itt.gov.mb.ca

Mr. Blake Bartlett
Alberta Innovation and Science,
9th Floor, Brownlee Building
10365-97 Street
Edmonton, Alberta
T5J 3W7 Tel.: (403) 427-1897
e-mail: Blake.Bartlett@gov.ab.ca

PUBLICATIONS OF STATISTICS CANADA ON SCIENCE AND TECHNOLOGY

The Science and Technology Statistics Program is one of the major responsibilities of the Science, Innovation and Electronic Information Division. The basic mission of the Science and Innovation Survey Section is to assure the availability of pertinent statistical information in support of the development of science and technology in Canada.

Information is disseminated in a series of reports including annual reports, monthly service bulletins, working papers and occasional research papers which are described below. Readers desiring more detailed and specific S&T information are invited to contact the Science and Innovation Survey Section, Science, Innovation and Electronic Information Division, Phone (613) 951-9662 or Fax (613) 951-9920.

How to Order Publications

Statistics Canada catalogued publications may be purchased from local authorized agents, other community bookstores, and Statistics Canada Regional Reference Centre or from:

Statistics Canada
Dissemination Division
Circulation Management,
120 Parkdale Avenue,
Ottawa, Ontario
K1A 0T6

Telephone: 1(613) 951-7277
National (toll free order line): 1-800-700-1033
Fax number: 1(613) 951-1584 or 1-800-889-9734
Toronto: Credit Card only (416) 973-8018
Internet: order@statcan.ca
[Http://www.statcan.ca/english/IPS/Data/88-001-XIB.htm](http://www.statcan.ca/english/IPS/Data/88-001-XIB.htm)

CATALOGUED PUBLICATIONS

Statistical Publications

- 88-202-XIB Industrial Research and Development, 2000 Intentions (with 1999 preliminary estimates and 1998 actual expenditures)
- 88-204-XIB Federal Scientific Activities 2000-2001^e (annual)
- 88-001-XIB Science Statistics (monthly)

Volume 24

- No. 1 Federal Government Personnel Engaged in Scientific and Technological (S&T) Activities, 1990-91 to 1999-2000^e
- No. 2 Biotechnology Research and Development (R&D) in Canadian Industry, 1997
- No. 3 Industrial Research and Development, 1996 to 2000
- No. 4 The Provincial Research Organizations, 1998
- No. 5 Federal Government Expenditures on Scientific Activities, 2000-2001^e
- No. 6 Total Spending on Research and Development in Canada, 1989 to 2000^e, and Provinces, 1989 to 1998
- No. 7 Estimation of Research and Development Expenditures in the Higher Education Sector, 1998-1999
- No. 8 Research and Development (R&D) Expenditures of Private Non-Profit (PNP) Organizations, 1999

Volume 25

No. 1 Distribution of Federal Expenditures on Science and Technology, by Province and Territories, 1998-99

WORKING PAPERS

These working papers are available from the Science and Innovation Surveys Section, please contact:

Science and Innovation Surveys Section
Science, Innovation and Electronic Information Division
Statistics Canada
Ottawa, Ontario
K1A 0T6

Tel: (613) 951-6347

WORKING PAPERS - 2000

- ST-00-01 Survey of Intellectual Property Commercialization in the Higher Education Sector, 1999, April 2000
- ST-00-02 Federal Government Expenditures and Personnel in the Natural and Social Sciences, 1990-91 to 1999-2000^e, June 2000
- ST-00-03 A Framework for Enhanced Estimations of Higher Education and Health R&D Expenditures, by Mireille Brochu, July 2000
- ST-00-04 Information and Communications Technologies and Electronic Commerce in Canadian Industry, November 2000

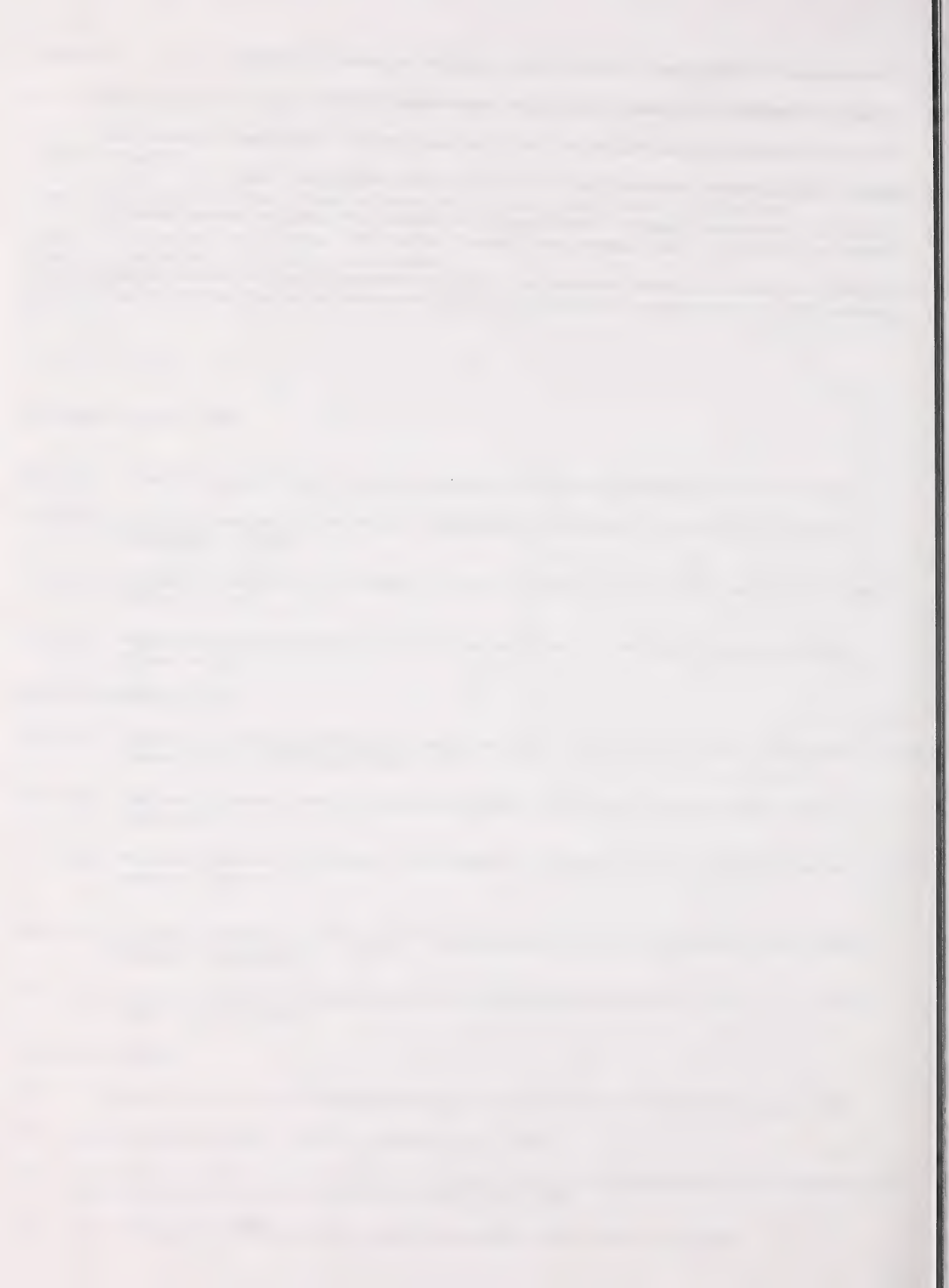
WORKING PAPERS - 2001

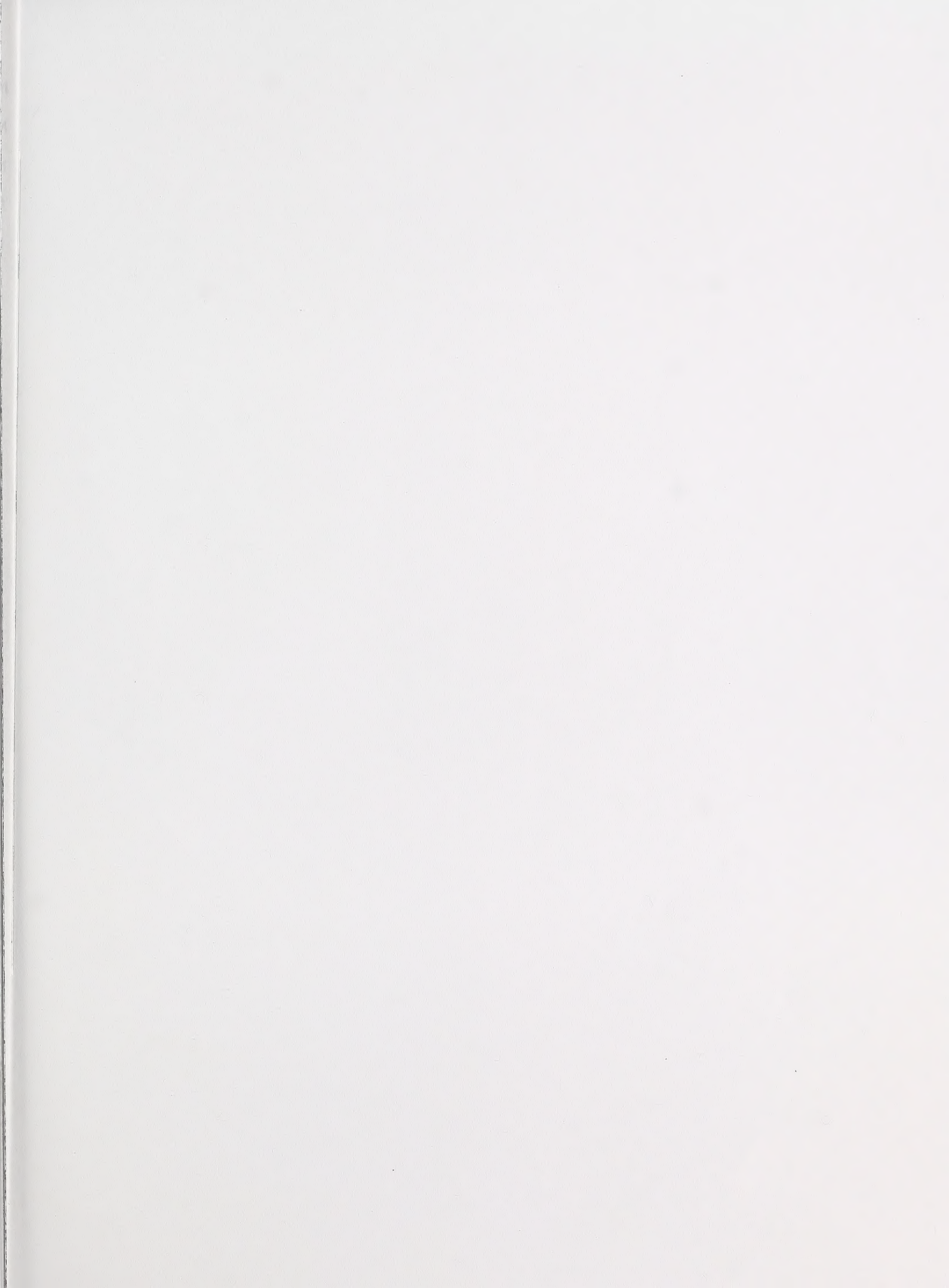
- ST-01-01E Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1989 to 2000^e, and by Province 1989 to 1998, February 2001
- ST-01-02E Estimation of Research and Development Expenditures in the Higher Education Sector, 1998-99, February 2001
- ST-01-03E Innovation, Advanced Technologies and Practices in the Construction and Related Industries: Provincial Estimates, January 2001
- ST-01-04E Innovation, Advanced Technologies and Practices in the Construction and Related Industries: National Estimates, February 2001
- ST-01-05 Provincial Distribution of Federal Expenditures and Personnel on Science and Technology, 1990-91 to 1998-99, February 2001

RESEARCH PAPERS

- No. 1 The State of Science and Technology Indicators in the OECD Countries, by Benoit Godin, August 1996
- No. 2 Knowledge as a Capacity for Action, by Nico Stehr, June 1996
- No. 3 Linking Outcomes for Workers to Changes in Workplace Practices: An Experimental Canadian Workplace and Employee Survey, by Garnett Picot and Ted Wannell, June 1996
- No. 4 Are the Costs and Benefits of Health Research Measurable? by M.B. Wilk, February 1997

- No. 5 Technology and Economic Growth: A Survey, by Petr Hanel and Jorge Niosi, April 1998
- No. 6 Diffusion of Biotechnologies in Canada, by Anthony Arundel, February 1999
- No. 7 Barriers to Innovation in Services Industries in Canada, by Pierre Mohnen and Juliol Rosa, November 1999
- No. 8 Explaining Rapid Growth in Canadian Biotechnology Firms, by Jorge Niosi, August, 2000
- No. 9 Internationally Comparable Indicators on Biotechnology: A Stocktaking, a Proposal for Work and Supporting Material, by W. Pattinson, B. Van Beuzekom and A. Wyckoff, January 2001
- No. 10 Analysis of the Survey on Innovation, Advanced Technologies and Practices in the Construction and Related Industries, 1999, by George Seaden, Michael Guolla, Jérôme Doutriaux and John Nash, January 2001





National Library of Canada
Bibliothèque nationale du Canada



3 3286 52453571 9

